

Agrium Conda Phosphate Operations

Agrium's Response to EPA's Letter Dated August 31, 2005

Agrium asserts a claim of confidentiality with respect to the information contained herein. The information to which this confidentiality claim applies constitutes trade secret, privileged or confidential commercial or financial information, and/or information specifically exempted from disclosure by statute. Such information has been maintained in confidence by Agrium and is not reasonably obtainable by use of legitimate means without Agrium's consent, and Agrium intends to continue its existing practice of protecting the confidentiality of all information subject to this claim of confidentiality.

Public disclosure of the information for which Agrium asserts this confidentiality claim would cause substantial harm to Agrium's competitive position. Furthermore, the information to which this claim applies does not constitute emission data, standards or limitations within the meaning of Clean Air Act §114(c), or other similar relevant federal and/or state provisions. This information includes commercial and/or financial-related information regarding confidential, commercially valuable plans, processes or devices. Because Agrium's business is highly competitive in nature, the disclosure of any such information would substantially harm Agrium's business position by depriving it of an advantage inherent in such information, and/or by providing Agrium's competitors with the ability to derive a benefit from such information to Agrium's detriment. For example, certain information to which this claim applies potentially could be used by Agrium's competitors to project Agrium's future production and/or pricing patterns, to gain insight into Agrium's proprietary process designs and/or production and marketing strategies, and/or to negatively influence public/consumer perceptions of Agrium and Agrium products.

In the event that EPA, or the Idaho Department of Environmental Quality ("IDEQ") receives a request for public disclosure of any information contained herein, Agrium requests that EPA and/or IDEQ notify Agrium immediately upon receiving any such request, notify Agrium of any determination by EPA and/or IDEQ with respect to the confidentiality of such information, and provide Agrium an opportunity to comment regarding any such EPA/IDEQ determination prior to the public disclosure of the requested information.

BATES PREFIX	BEG BATES	END BATES	DATE	DOC TYPE	AUTHOR	RECIPIENT	DESCRIPTION
AGR-CBI	000261	000261		File Cover			Sub-File cover sheet, "Normal Operations" (documents located at AGR-CBI 000261-000480)
AGR-CBI	000262	000268	12/1/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Pressuring Up the 30# Steam System, East Sulfuric-Steam System-
AGR-CBI	000269	000272	11/8/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Normal Filling of the Nalco 1720 Chemical Tote, East Sulfuric-Treated/Raw Water System- 01
AGR-CBI	000273	000277	11/23/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric, Sulfuric Acid Strength Determination (Acid Samples), East Sulfuric-Acid System- 01
AGR-CBI	000278	000282	11/15/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Filling The Economizer, East Sulfuric-Treated/Raw Water System-
AGR-CBI	000283	000287	11/16/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Draining the #1 Waste Heat Boiler, East Sulfuric- General- 01
AGR-CBI	000288	000292	12/2/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Pressuring Up the 5# Steam System, East Sulfuric- Steam System-
AGR-CBI	000293	000296	11/15/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Washing The Terry Turbine Fan, East Sulfuric- General- 01
AGR-CBI	000297	000301	11/22/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Sample/Analyze Boiler Feed Water M- Alkalinity, East Sulfuric-Treated/Raw Water System- 01
AGR-CBI	000302	000305	11/22/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Maintaining Water Levels of the Waste Heat Boilers (#1 or #2), East Sulfuric-General- 01
AGR-CBI	000306	000309	11/23/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Sample/Analyze Cooling Tower Water Calcium Hardness, East Sulfuric-Treated/Raw Water System-
AGR-CBI	000310	000314	11/22/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Switching From Primary to Secondary Oil Filter System (Terry Turbine), East Sulfuric-General- 01
AGR-CBI	000315	000318	11/8/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Blowing Down the Waste Heat Boilers (#1 or #2), East Sulfuric-General- 01
AGR-CBI	000319	000322	11/22/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Sample/Analyze Cation Water Unit Free Mineral Acidity (FMA), East Sulfuric-Treated/Raw
AGR-CBI	000323	000327	12/2/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Pressuring Up the Steam Tracing System East Sulfuric-Steam

BATES PREFIX	BEG BATES	END BATES	DATE	DOC TYPE	AUTHOR	RECIPIENT	DESCRIPTION
AGR-CBI	000328	000331	12/2/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Normal Adjustments to the 5# Steam System, East Sulfuric-Steam System- 01
AGR-CBI	000332	000335	11/22/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Controlling the Cooling Tower pH, East Sulfuric-Acid System- 01
AGR-CBI	000336	000340	11/22/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Transfer From #2 98% Tank to #1 98% Tank, East Sulfuric-Acid
AGR-CBI	000341	000344	11/22/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Sample/Analyze Waste Heat Boiler Water SO3 (Sulfite) Levels (#1 or #2), East Sulfuric-Treated/Raw Water System- 01
AGR-CBI	000345	000348	11/22/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Sample/Analyze Waste Heat Boiler Water Total Dissolved Solids (TDS) (#1 or #2), East Sulfuric- Treated/Raw Water System- 01
AGR-CBI	000349	000352	12/2/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Normal Adjustments to the 250# High Pressure Steam System- Steam System- 01
AGR-CBI	000353	000357	11/16/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Draining the Deprecator Tank, East Sulfuric-General- 01
AGR-CBI	000358	000361	11/22/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Adjusting the Terry Turbine Oil Coolers, East Sulfuric-General- 01
AGR-CBI	000362	000365	11/22/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Sample/Analyze Waste Heat Boiler Water OH-Alkalinity (#1 or #2), East Sulfuric-Treated/Raw Water
AGR-CBI	000366	000369	11/16/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Filling The Deprecator Tank, East Sulfuric-General- 01
AGR-CBI	000370	000373	11/17/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Draining the #2 Waste Heat Boiler (32 WHB), East Sulfuric-
AGR-CBI	000374	000377	11/18/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Adjusting the Drying Tower and #1 Absorbing Tower Acid Flows, East Sulfuric-Acid System- 01
AGR-CBI	000378	000381	11/22/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Sample/Analyze Cation Water Unit Hardness, East Sulfuric- Treated/Raw Water System- 01
AGR-CBI	000382	000385	11/16/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Putting C Anion Water Unit in Service, East Sulfuric-Treated/Raw Water System- 01

BATES PREFIX	BEG BATES	END BATES	DATE	DOC TYPE	AUTHOR	RECIPIENT	DESCRIPTION
AGR-CBI	000386	000389	11/18/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Adjusting the Acid Cooler Bypass Auto Valves, East Sulfuric- Acid System- 01
AGR-CBI	000390	000393	11/16/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Continuous Emissions Monitor System (CEMS) Daily Calibration Check, East Sulfuric-
AGR-CBI	000394	000397	11/10/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Adjusting the Liquid Caustic Metering Pump, East Sulfuric- Treated/Raw Water System- 01
AGR-CBI	000398	000401	11/22/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Transfer from #1 98% Tank to 93% Tank, East Sulfuric-Acid System-
AGR-CBI	000402	000405	11/22/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Controlling the 2000 hp. Booster Blower Inlet Pressure, East Sulfuric-General- 01
AGR-CBI	000406	000409	11/16/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Putting D Cation Water Unit In Service, East Sulfuric-Treated/Raw Water System- 01
AGR-CBI	000410	000413	12/2/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Normal Adjustments to the 125# Steam System, East Sulfuric-
AGR-CBI	000414	000417	11/8/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Filling the Sulfuric Acid Regeneration Tank, East Sulfuric- Treated/Raw Water System- 01
AGR-CBI	000418	000421	11/17/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Adjusting the Sulfur Feed Flow, East Sulfuric-Sulfur Feed
AGR-CBI	000422	000425	11/22/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Sample/Analyze #1 or #2 Return Condensate, East Sulfuric- Treated/Raw Water System- 01
AGR-CBI	000426	000429	11/8/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Filling the South Caustic Tank, East Sulfuric-Treated/Raw Water System- 01
AGR-CBI	000430	000433	11/22/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Sample/Analyze Boiler Feed Water Hardness, East Sulfuric- Treated/Raw Water System- 01
AGR-CBI	000434	000436	11/8/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Filling the Nalco 354 Chemical Tank-Treated/Raw Water
AGR-CBI	000437	000441	11/17/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Draining the #2 Waste Heat Boiler Side of the Economizer-
AGR-CBI	000442	000446	11/17/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Draining the #1 Waste Heat Boiler Side of the Economizer-

AGRIUM/CONDA
CBI Document Production Index
in Response to 8/31/05 EPA Info. Request

BATES PREFIX	BEG BATES	END BATES	DATE	DOC TYPE	AUTHOR	RECIPIENT	DESCRIPTION
AGR-CBI	000447	000451	11/8/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Filling the Nalco 7200/Caustic Chemical Tank-Treated/Raw Water System- 01
AGR-CBI	000452	000455	11/17/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Switching Sulfur Feed Pumps (Normal or Emergency), East Sulfuric- Sulfur System- 01
AGR-CBI	000456	000458	11/22/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Switching Terry Turbine Oil Coolers, East Sulfuric-General- 01
AGR-CBI	000459	000461	11/8/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Resetting of the Cooling Tower Deluge Valve, East Sulfuric- Treated/Raw Water System- 01
AGR-CBI	00462	000464	11/9/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Adjusting the Nalco 1720 Chemical Injection Pump, East Sulfuric-Treated/Raw Water System-
AGR-CBI	000465	000468	11/10/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Sample-Analyze Cooling Tower Total Dissolved Solids, East Sulfuric-Treated/Raw Water System-
AGR-CBI	000469	000471	3/9/2005	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: Phos Products, Getting the Shuttle Wagon on the Rails, East Sulfuric-
AGR-CBI	000472	000474	11/10/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Adjusting the Sulfuric Acid Metering Pumps, East Sulfuric- Treated/Raw Water System- 01
AGR-CBI	000475	000477	11/10/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Adjusting the Nalco 354 Chemical Feed Pump, East Sulfuric- Treated/Raw Water System- 01
AGR-CBI	000478	000480	11/10/2004	SOPs	Agrium Conda Phosphate Operations		Standard Operating Procedures: East Sulfuric Adjusting the Nalco 7200 Chemical Feed Pump, East Sulfuric- Treated/Raw Water System- 01

Normal Operations



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations

EAST SULFURIC
Pressuring Up The 30# Steam System
East Sulfuric-Steam System-01

12/01/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to pressure up the 30# steam system.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: Valve wrench

Page 1 of 7

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 11:47:32 AM
Prepared by: Shane T. Passey*

Pressuring up the 30# steam system.

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none">• Hardhat• Safety glasses• Steel-toed boots• Leather gloves• Tyvek suit.• Face shield		

TASKS:

1. Open valves
2. Close valves

DANGER

It is important to remove condensate from the steam mains as quickly as possible, for reasons of safety and to permit greater plant efficiency. A buildup of water can lead to water hammer, capable of fracturing piping fittings and valves.

Water hammer occurs when a slug of water, pushed by steam pressure along a pipe instead of draining away at the low points, is suddenly stopped by impact on a valve fitting such as a pipe bend or Tee. The velocities that such slugs of water can achieve are not often appreciated. They can be much higher than the normal steam velocity in the pipe, especially when the water hammering is occurring at start up. When these velocities are destroyed, the kinetic energy in the water is converted into pressure energy and a pressure shock is applied to the obstruction (Valve, bend or Tee) In mild cases there is noise and movement of the pipe. More severe cases may lead to fractures of piping with almost explosive effect and consequent escape of live steam at these fractures.

Pressuring up the 30# steam system.

Steps		Key Points	PPE/Hazards
1.	Open steam/condensate bleed valves 3 or 4 turns	To reduce water hammer.	<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Face shield • Tyvek suit. • Safety harness with lanyard
2.	Check bleed valves for condensate release.		

DANGER

Steam header valves must be opened slowly until steam flow is detected. Opening steam header valves too far too fast may create excessive steam line "hammer" and may cause steam line rupture resulting in extended down time and injury to personnel.

CAUTION

Steam/condensate bleed off valves must be closed to a bare minimum of flow after condensate has been removed from the line. Very low visibility and extremely high temperatures inside the buildings will make it impossible for personnel to enter and close bleed valves.

3.	Close bleed off valves to about 1 turn open.		
4.	Open the 30# "Riverboat" valve 100%		

DANGER

Steam header valves must be opened slowly until steam flow is detected. Opening steam header valves too far too fast may create excessive steam line "hammer" and may cause steam line rupture resulting in extended down time and injury to personnel.

Pressuring up the 30# steam system.

5.	Open 30# manual block valve from the North Plant	Located above the East Plant Control room.	
-----------	---	---	--

Page 4 of 7

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 11:47:32 AM
Prepared by: Shane T. Passey*

Pressuring up the 30# steam system.

Steps		Key Points	PPE/Hazards
6.	Open steam/condensate bleed valves on the Terry Turbine.	Allows condensate buildup in the Terry Turbine to be expelled and allows heat up of the blower components in preparation for start up.	
7.	Open the 30# manual chain operated discharge block valve of the Terry Turbine.		

CAUTION

Steam bleeds on the Terry Turbine must be left partially open until the Turbine has been put in to service. Closing the bleeds before this time will create condensate build up and possibly cause component damage upon startup.

8.	Close all bleed valves.		
----	-------------------------	--	--

Pressuring up the 30# steam system.

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High/High 40 psi	Over pressure of the system	Under supply to customers/loss of Terry Turbine speed/loss of production	Open plant vent letdown
High 35 psi	Over pressure of the system	Loss of Terry Turbine speed/loss of production	Open plant vent letdown
Normal 30 psi	Normal	Normal	N/A
Low 25 psi	Under pressure of system	Under supply to customer	Close plant vent letdown
Low/Low 20 psi	Under pressure of system	Under supply to customer	Close plant vent letdown
Temperature 255 degrees F.	Normal	Normal	N/A
Pressure 166 psi	Normal	Normal	N/A

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.

Page 6 of 7

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 11:47:32 AM
Prepared by: Shane T. Passey*

AGR-CBI_000267

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Pressuring up the 30# steam system.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____

Page 7 of 7

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 11:47:32 AM
Prepared by: Shane T. Passey*

AGR-CBI_000268

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations

EAST SULFURIC
Normal Filling of the Nalco 1720 Chemical Tote
(D.A. Tank)

East Sulfuric-Treated/Raw Water System -01

11/08/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to perform normal filling of the Nalco 1720 Chemical Tote.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: 8" crescent wrench and adjustable pliers.

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 11:45:34 AM
Prepared by: Shane T. Passey*

Normal filling of the Nalco1720 chemical tote

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Rubber gloves • Face shield • Tyvek suit. 	<ul style="list-style-type: none"> • Exposure to corrosive chemical. • Tote falling from picker hook 	Cleanup any spills immediately and report to supervisor.

TASKS:

1. Shut down pump
2. Close valves
3. Open valves
4. Transport tote
5. Start pump

Steps		Key Points	PPE/Hazards
1.	Shut off or unplug chemical metering pump.		<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Rubber gloves • Face shield • Tyvek suit.
2.	Close chemical block valve on feed line to deareator (D.A.) tank.		
3.	Close chemical tank block valve and disconnect discharge tube.		
4.	Move chemical tank outside D.A. building where picker can reach it.		

Normal filling of the Nalco1720 chemical tote

Steps		Key Points	PPE/Hazards
5.	Guide hook into position above tank.		
6.	Rig tank to hook.		
7.	Guide load up high enough to clear any surrounding obstacles.		

NOTE

Picker operator will transport tank to chemical at storage building for filling.

8.	Fill tank from permanent storage tank.		
9.	Replace and tighten tank lids.		

NOTE

Picker will transport tank back up to D.A. building.

10.	Guide load down onto dock and unhook		
11.	Move tank back into building.		
12.	Reconnect discharge tube to tank and open block valve.		
13.	Open chemical block valve on feed line to D.A. tank.		
14.	Start pump and check operation.		
15.	Clean up any spilled chemical.		



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations

EAST SULFURIC
Sulfuric Acid Strength Determination
(Acid Samples)
East Sulfuric-Acid System-01

11/23/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to Determine acid strengths of the #1, #2 and the 93% acid tanks.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: 250 milliliter (ml) flask, Analytical balance scale, transfer pipette, stirring magnet, Class "A" 50 ml burette, stir plate.

Page 1 of 5

This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 11:44:39 AM

Prepared by: Shane T. Passey

AGR-CBI_000273

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Sulfuric acid strength determination

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Safety glasses • Steel-toed boots • Latex gloves • Tyvek suit. 	<ul style="list-style-type: none"> • Exposure to sulfuric acid • Exposure to sampling reagents 	N/A

TASKS:

1. Mix sample
2. Add reagents
3. Weigh sulfuric acid

Steps		Key Points	PPE/Hazards
1.	Place a clean, dry 250 ml flask and stirring magnet on the analytical balance.		<ul style="list-style-type: none"> • Safety glasses • Steel-toed boots • Latex gloves • Tyvek suit.
2.	Zero the balance.		
3.	Transfer 0.5 – 0.7 grams of sulfuric acid sample into the flask.		
4.	Record the weight to the nearest 0.0001		
5.	Place mixing magnet in bottom of flask.		
6.	Added clean demineralized water to flask	Enough to cover magnet	
7.	Add 3 – 4 drops of Phenol to the sample.		
8.	Titrate sample with 0.5 N NaOH, until one drop turns the sample to a light pink that remains for 30 seconds		
9.	Record the volume.		

Page 2 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 11:44:39 AM
Prepared by: Shane T. Passey*

Sulfuric acid strength determination

NOTE

$$\text{Calculation - \% H}_2\text{SO}_4 = \frac{\text{ml NaOH} \times \text{N NaOH}}{\text{Sample Weight}} \times 4.904$$

Steps		Key Points	PPE/Hazards
10.	Wash all glassware three times with distilled water.		
11.	Dry all glassware with paper towel.		
12.	Store glassware in dry appropriate location.		

Sulfuric acid strength determination

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High/High 98.30%	Exceed plant emissions limit	Violations of EPA/DEQ	Add dilution water
High 98.25%	Exceed plant emissions limit	Violations of EPA/DEQ	Add dilution water
Normal 98.0-98.2%	Normal	Normal	N/A
Low 97.9%	Visible emissions	Visible emissions	Decrease dilution water flow
Low/Low 97.5%	Visible emissions	Visible emissions	Decrease dilution water flow

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.

Page 4 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 11:44:39 AM
Prepared by: Shane T. Passey*

AGR-CBI_000276

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____

Page 5 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 11:44:39 AM
Prepared by: Shane T. Passey*

AGR-CBI_000277

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations

EAST SULFURIC
Filling The Economizer.

(#1 or #2 Side)

East Sulfuric-Treated/Raw Water System -01

11/15/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to fill the #1 or the #2 waste heat boiler side of the economizer.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: N/A

Page 1 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 11:43:55 AM
Prepared by: Shane T. Passey*

Filling the #1 or #2 sides of the economizer

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Tyvek suit. • Face shield 	<ul style="list-style-type: none"> • Exposure to hot boiler feed water. 	N/A

TASKS:

1. Open valves.
2. Close valves
3. Start pump.
4. Stop pump.

DANGER

THIS PROCEDURE MUST BE FOLLOWED STEP BY STEP AS IT IS WRITTEN TO PREVENT PERSONNAL INJURY, DEATH, PLANT SHUTDOWN, DESTRUCTION OF MAJOR PIECES OF EQUIPMENT, FIRE OR ENVIRONMENTAL VIOLATIONS.

NOTE

The West side of the Economizer is the #1 waste heat boiler side. The East side of the Economizer is the #2 waste heat boiler side.

Steps		Key Points	PPE/Hazards
1.	Close the manual inlet block valve to the #1 or #2 side of the economizer.		<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Tyvek suit. • Face shield
2.	Open the vent gate valve to the #1 or #2 side of the economizer discharge line		
3.	Close the outlet block valve to the #1 or #2 side of the economizer.		

Page 2 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 11:43:55 AM
Prepared by: Shane T. Passey*

AGR-CBI_000279

SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES

Filling the #1 or #2 sides of the economizer

Steps		Key Points	PPE/Hazards
4.	Push the "Boiler Control" hot button on the DCS screen.		
5.	Locate the #1 or #2 Boiler control faceplate		
6.	Open the #1 or #2 waste heat boiler level control auto valve to 25%.		
7.	Start the boiler feed water pump.	Refer to "Startup of the boiler feed water pump" procedure.	
8.	Open the boiler feed inlet block valve to the #1 or #2 boiler side of the economizer slowly to begin filling.		

NOTE

Steam may be present during filling process. Water escaping from vent piping indicates that the #1 or #2 side of the economizer is full of water.

9.	Monitor economizer vent piping.		
10.	Close the #1 or the #2 side boiler feed water inlet manual block valve.		
11.	Close the economizer vent gate valve.		
12.	Open the #1 or the #2 side of the economizer discharge block valve.		

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
High/High	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High			
Low			
Low/Low			
Temperature			
Pressure			

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____

Page 5 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 11:43:55 AM
Prepared by: Shane T. Passey*

AGR-CBI_000282

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations

EAST SULFURIC
Draining The #1 Waste Heat Boiler
East Sulfuric-General-01

11/16/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to drain the #1 waste heat boiler (#1 WHB).

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: Proper size combination end wrench, channel lock pliers.

Page 1 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 11:43:27 AM
Prepared by: Shane T. Passey*

Draining the #1 waste heat boiler

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none">• Hardhat• Safety glasses• Steel-toed boots• Leather gloves• Tyvek suit.• Face shield		

TASKS:

1. Open valves.
2. Close valves.
3. Remove blank
4. Connect drain hose

DANGER

THIS PROCEDURE MUST BE FOLLOWED STEP BY STEP AS IT IS WRITTEN TO PREVENT PERSONNAL INJURY, DEATH, PLANT SHUTDOWN, DESTRUCTION OF MAJOR PIECES OF EQUIPMENT, FIRE OR ENVIRONMENTAL VIOLATIONS.

NOTE

The bottom blow down valves for the #1 Waste Heat Boiler are located are ground level on the West side of the Boiler. The inside manual knife block valve is handle operated and the outside gate manual block valve is wheel operated.

NOTE

Connecting a drain hose from the bottom of the manual blow down valve discharge line is necessary to drain the boilers. Once the initial pressure is relieved from the boiler, the water will not travel upward along the normal blow down lines to the sump. Water must be drained to the wastewater trough by way of gravity flow.

Page 2 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 11:43:27 AM
Prepared by: Shane T. Passey*

AGR-CBI_000284

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Draining the #1 waste heat boiler

Steps		Key Points	PPE/Hazards
1.	Remove the blank at the corner of the blow down valves discharge piping.		<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Face shield • Tyvek suit.
2.	Install flanged cam lock fitting in place of the blank.		
3.	Connect a drain hose to the cam lock fitting.		
4.	Place the drain hose in the wastewater trough just inside the utility building and north of East Boiler feed pump.		

CAUTION

Flag the drain area to alert personnel of possible danger from exposure to hot water. Open the blow down valves slowly to prevent the drain hose from whipping about during draining.

5.	Open the inside manual knife block valve slowly.		
6.	Open the outside manual block wheel valve slowly.		
7.	Open the outside manual block wheel valve slowly.		
8.	Locate the #1 waste heat boiler sight glass. (Located on the North west end of the boiler and at the catwalk level)		
9.	Locate the levels column on the distribution control system (DCS) workstation.		

Draining the #1 waste heat boiler

Steps		Key Points	PPE/Hazards
10.	Click on the "Hot Button" labeled " #1 WHB" to show the faceplate.		
11.	Compare DCS level reading to the actual sight glass reading for accuracy.		
12.	Locate the #1 waste heat boiler Eye-Hye indicator on the old control panel labeled "#1 waste heat boiler		
13.	Compare Eye-Hye level indication to the sight glass and the DCS readout for accuracy.		

CAUTION

Do not attempt to open the 1" steam drum vent valve until the bottom manual blow down valves have been open for a minute or two and the internal pressure of the boiler has been drained off. Possible injury could occur to personnel should the vent valve be opened under "Test" pressure.

14.	Open the 1" steam drum vent valve to release vacuum from the boilers internals and allow water to drain from the boiler.		
-----	--	--	--



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations

EAST SULFURIC
Pressuring Up The 5# Steam System
East Sulfuric-Steam System-01

12/02/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to pressure up the 5# steam system.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: Valve wrench

Page 1 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 11:42:46 AM
Prepared by: Shane T. Passey*

Pressuring up the 5# steam system

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none">• Hardhat• Safety glasses• Steel-toed boots• Leather gloves• Tyvek suit.• Face shield	<ul style="list-style-type: none">• Water hammer• Steam line rupture due to thermal shock• Exposure to hot condensate	N/A

TASKS:

1. Opening valves
2. Closing drains

DANGER

It is important to remove condensate from the steam mains as quickly as possible, for reasons of safety and to permit greater plant efficiency. A buildup of water can lead to water hammer, capable of fracturing piping fittings and valves.

Water hammer occurs when a slug of water, pushed by steam pressure along a pipe instead of draining away at the low points, is suddenly stopped by impact on a valve fitting such as a pipe bend or Tee. The velocities that such slugs of water can achieve are not often appreciated. They can be much higher than the normal steam velocity in the pipe, especially when the water hammering is occurring at start up. When these velocities are destroyed, the kinetic energy in the water is converted into pressure energy and a pressure shock is applied to the obstruction (Valve, bend or Tee) In mild cases there is noise and movement of the pipe. More severe cases may lead to fractures of piping with almost explosive effect and consequent escape of live steam at these fractures.

NOTE

Condensate will bleed off to the Deareator Tank

Page 2 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 11:42:46 AM
Prepared by: Shane T. Passey*

AGR-CBI_000289

SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES

Pressuring up the 5# steam system

Steps		Key Points	PPE/Hazards
1.	Open the 5# steam control manual block discharge valve 100%.		<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Face shield • Tyvek suit.
2.	Open the 5# steam Auto control valve 5%.		

DANGER

Steam header valves must be opened slowly until steam flow is detected. Opening steam header valves too far too fast may create excessive steam line "hammer" and may cause steam line rupture resulting in extended down time and injury/death to personnel.

3.	Open the 5# steam control manual inlet block valve slowly until steam flow is detected.		
4.	Allow enough time for piping to heat properly and condensate to be removed.		
5.	Open the 5# steam control manual block inlet block 100%		

Pressuring up the 5# steam system

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High/High 10 psi	System over pressure	Pop off release	Lower 5# demand controller
High 7.5 psi	System over pressure	Pop off release	Lower 5# demand controller
Normal 6.0 psi	Normal	Normal	N/A
Low 4.0 psi	Under pressure of system	Inadequate heating of the D.A. tank	Raise 5# demand controller
Low/Low 3.5 psi	Under pressure of system	Inadequate heating of the D.A. tank	Raise 5# demand controller
Temperature 220 degrees F.	Normal	Normal	N/A

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____

Page 5 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 11:42:46 AM
Prepared by: Shane T. Passey*



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations

EAST SULFURIC
Washing The Terry Turbine Fan
East Sulfuric-General-01

11/15/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to Wash the Terry Turbine Fan.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: N/A

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 11:42:14 AM
Prepared by: Shane T. Passey*

Washing the terry turbine fan

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Tyvek suit. • Face shield 	<ul style="list-style-type: none"> • Exposure to hot boiler feed water • Exposure to rotating equipment 	N/A

TASKS:

1. Open valves
2. Close valves
3. Open inlet duct access door
4. Close inlet duct access door

<p align="center">DANGER</p> <p align="center">THIS PROCEDURE MUST BE FOLLOWED STEP BY STEP, AS IT IS WRITTEN TO PREVENT PERSONNAL INJURY, DEATH, PLANT SHUTDOWN, DESTRUCTION OF MAJOR PIECES OF EQUIPMENT, FIRE OR ENVIRONMENTAL VIOLATIONS.</p>

Steps		Key Points	PPE/Hazards
1.	Close the wash hose supply ball valve.		<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Tyvek suit. • Face shield
2.	Close the rear side wash tubing ball valve.		
3.	Close the wash water main supply line drain ball valve.		
4.	Open slowly main supply wash line gate valve.		

Page 2 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 11:42:14 AM
Prepared by: Shane T. Passey*

Washing the terry turbine fan

NOTE

Use cation when opening inlet duct access door as the duct has extreme amount of suction behind it.

	Steps	Key Points	PPE/Hazards
5.	Open and secure the inlet duct access door.		

DANGER

Inserting the wash hose too far inside of the inlet ductwork could result in fan/hose contact, which could cause hose and/or operator extremity to be pulled into fan.

6.	Push was hose slowly through access door approx. one (1) foot.		
7.	Open slowly the wash hose supply ball valve to start water to the wash hose.		
8.	Move the wash hose slowly in and out across fan face.		
9.	Close the wash water hose supply ball valve		

NOTE

The length of time to wash the front or the back side of the Turbine fan most likely will be determined by the vibration reading of the Reliability personnel. The dirtier the fan is determined to be, likely may require longer wash times.

10.	Open slowly the backside wash tubing supply ball valve.		
11.	Close the backside wash tubing supply ball valve.		
12.	Close the main supply wash line gate valve.		
13.	Open backside wash tubing ball valve to drain tubing.		
14.	Open the wash hose supply ball valve.		
15.	Drain hose.		

Page 3 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 11:42:14 AM
Prepared by: Shane T. Passey*

AGR-CBI_000295

SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____

Page 4 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 11:42:14 AM
Prepared by: Shane T. Passey*

AGR-CBI_000296

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**



Conda Phosphate Operations

Standard Operating Procedures Agrium Operations

EAST SULFURIC

**Sample/Analyze Boiler Feed Water M- Alkalinity
East Sulfuric-Treated/Raw Water System-01**

11/22/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to sample/analyze boiler feed water M-Alkalinity.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: 50-milliliter crucible, indicator solution 260 and N/50 H₂SO₄

Page 1 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 11:41:36 AM
Prepared by: Shane T. Passey*

AGR-CBI_000297

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Sample/analyze boiler feed water M- Alkalinity

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Safety glasses • Steel-toed boots 		

TASKS:

1. Sample/Analyze boiler feed water

Steps		Key Points	PPE/Hazards
1.	Measure 50 milliliters (ml) of boiler feed water into a clean crucible.		<ul style="list-style-type: none"> • Safety glasses • Steel-toed boots
2.	Add 4 to 5 drops of indicator 260 to sample	A blue color should appear	
3.	Titrate with N/50 H₂SO₄ until 1 drop turns the color to a pink color.		
4.	Calculate the ml of acid used from the beret.		

Sample/analyze boiler feed water M- Alkalinity

NOTE

Calculation x mls used

1 ml – 20 ppm	12.0 – 240 ppm
1.5 - 30	12.5 - 250
2.0 - 40	13.0 - 260
2.5 – 50	13.5 - 270
3.0 - 60	14.0 - 280
3.5 - 70	14.5 - 290
4.0 - 80	15.0 - 300
4.5 - 90	15.5 - 310
5.0 - 100	16.0 - 320
5.5 - 110	16.5 - 330
6.0 - 120	17.0 - 340
6.5 - 130	17.5 - 350
7.0 - 140	18.0 - 360
7.5 - 150	18.5 - 370
8.0 - 160	19.0 - 380
8.5 - 170	19.5 - 390
9.0 - 180	20.0 - 400
9.5 - 190	20.5 - 410
10.0 – 200	21.0 - 420
10.5 – 210	21.5 - 430
11.0 – 220	22.0 - 440
11.5 – 230	22.5 - 450

Example: 20 x 8 ml = 160 ppm alkalinity

Control Range = 30/130 ppm

Page 3 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 11:41:36 AM
Prepared by: Shane T. Passey*

AGR-CBI_000299

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High/High 20 ppm	M-Alkalinity level above normal	N/A	N/A
High 10 ppm	M-Alkalinity level above normal	N/A	N/A
Normal 8 ppm	Normal	Normal	N/A
Low 6 ppm	M-Alkalinity level below normal	N/A	N/A
Low/Low 4 ppm	M-Alkalinity level below normal	N/A	N/A

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____

Page 5 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 11:41:36 AM
Prepared by: Shane T. Passey*

AGR-CBI_000301

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**



Conda Phosphate Operations

**Standard Operating Procedures
Agrium Operations**

**EAST SULFURIC
Maintaining Water Levels of The Waste Heat Boilers
(#1 or #2)
East Sulfuric-General-01**

11/22/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to maintain water levels in the #1 or #2 waste heat boilers.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: N/A

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 11:41:07 AM
Prepared by: Shane T. Passey*

AGR-CBI_000302

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Maintaining water levels of the #1 or #2 waste heat boilers.

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Tyvek suit. 		

TASKS:

1. Adjustments made to the distribution control system (DCS).

<p align="center">NOTE</p> <p align="center">Steps 1 – 4 are for automatic operation.</p>
--

Steps		Key Points	PPE/Hazards
1.	Click on the "BOILER CONTROL" hot button to show the control faceplate on the DCS overview screen.		<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Tyvek suit.
2.	Double click on the data entry box.		
3.	Enter desired boiler level in percentage.		
4.	Click "Enter"		

<p align="center">NOTE</p> <p align="center">Steps 4 – 6 are for manual operation</p>
--

5.	Click manual button on the control faceplate.		
----	---	--	--

Page 2 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 11:41:07 AM
Prepared by: Shane T. Passey*

AGR-CBI_000303
SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES

Maintaining water levels of the #1 or #2 waste heat boilers.

6.	Click on the blue up/down arrows to increase or decrease boiler water level.		
----	--	--	--

NOTE

Steps 7 should be followed if more drastic adjustments are necessary to get levels in operating ranges quicker than the auto mode will handle.

Steps		Key Points	PPE/Hazards
7.	Click and hold the arrow next to the valve position indication and move up or down as needed.		

Standard Operating Control Limits

SOCL #:

Deviation	Condition	Consequence	Action To Take
High/High	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High			
Low			
Low/Low			
Temperature			
Pressure			

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.

Page 3 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 11:41:07 AM
Prepared by: Shane T. Passey*

Maintaining water levels of the #1 or #2 waste heat boilers.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____

Page 4 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 11:41:07 AM
Prepared by: Shane T. Passey*



Conda Phosphate Operations

Standard Operating Procedures

Agrium Operations

EAST SULFURIC

Sample/Analyze Cooling Tower Water Calcium Hardness

East Sulfuric-Treated/Raw Water System-01

11/23/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to sample/analyze the cooling tower water calcium hardness levels.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: Flask, Solution H-6, H - 7 indicator powder and solution H - 1

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 11:40:25 AM
Prepared by: Shane T. Passey*

AGR-CBI_000306

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Sample/analyze cooling tower water calcium hardness levels

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Safety glasses • Steel-toed boots 	<ul style="list-style-type: none"> • Exposure to sampling chemicals 	N/A

TASKS:

1. Sample/Analyze cooling tower water

Steps		Key Points	PPE/Hazards
1.	Measure 50 milliliters (mls) of cooling tower water into a flask.		<ul style="list-style-type: none"> • Safety glasses • Steel-toed boots
2.	Add 3 Milliliters (mls) of H – 6 to sample.		
3.	Stir sample.		
4.	Add ½ scoop of H – 7 indicator powder.	A pink color should appear	
5.	Titrate sample with hardness solution H – 1.	Same solution as used for total hardness. Color should change from pink to purple.	

NOTE

PPM of Calcium Hardness = 20 x mls used

Example: 23 mls used 23 x 20 = 460 ppm calcium hardness

Control parameter – Maximum 900 ppm Calcium Hardness

Blow down Cooling Tower if Higher

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High/High 1000 ppm	Cooling Tower water calcium hardness level too high	Cooling Tower/acid cooler scale buildup/inadequate cooling of water/acid	Increase manual blow down of cooling tower water
High 950 ppm	Cooling Tower water calcium hardness level too high	Cooling Tower/acid cooler scale buildup/inadequate cooling of water/acid	Increase manual blow down of cooling tower water
Normal 900 ppm	Normal	Normal	N/A
Low 875 ppm	Cooling Tower water calcium hardness level too low	N/A	Decrease manual blow down of cooling tower water
Low/Low 850 ppm	Cooling Tower water calcium hardness level too low	N/A	Decrease manual blow down of cooling tower water
Temperature 81 degrees F.	Normal	Normal	N/A
Pressure 11.0 psi	Normal	Normal	N/A

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations

Standard Operating Procedures Agrium Operations

EAST SULFURIC Switching From Primary To Secondary Oil Filter System (Terry Turbine) East Sulfuric-General-01

11/22/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to Perform a switch from the primary to secondary oil filter system of the Terry Turbine.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: N/A

Page 1 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 11:40:02 AM
Prepared by: Shane T. Passey*

AGR-CBI_000310

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Switching Terry Turbine primary oil filter system to the secondary oil filter system.

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Tyvek suit. • Face shield 		

TASKS:

1. Open valves.
2. Close valves.

NOTE

The primary oil filter system is the south system in the southeast corner of the Turbine deck. The North system consists of two (2) filter canisters and is the primary filter system. The South system is the secondary filter system and consists of one (1) large canister.

Steps		Key Points	PPE/Hazards
1.	Open slowly the inlet oil block valve.		<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Face shield • Tyvek suit.
2.	Monitor oil pressure.		

NOTE

Removing air pockets from the oil system is necessary to prevent initial oil pressure loss which may result in unnecessary Turbine shutdown.

Page 2 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 11:40:02 AM
Prepared by: Shane T. Passey*

AGR-CBI_000311

SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES

Switching Terry Turbine primary oil filter system to the secondary oil filter system.

Steps		Key Points	PPE/Hazards
3.	Open the bleed petcock on top of the secondary filter canister to relieve any air pockets.		
4.	Close petcock.		
5.	Open slowly the outlet oil block valve.		
6.	Monitor oil pressure.		
7.	Close the primary oil filter system discharge oil block valve.		
8.	Monitor oil pressure.		
9.	Close the primary oil filter system Inlet oil block valve.		
10.	Monitor oil pressure.		

Switching Terry Turbine primary oil filter system to the secondary oil filter system.

Standard Operating Control Limits SOCL #:			
Deviation	Condition	Consequence	Action To Take
	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High/High 40 psi	Oil pressure too high	Damage to oil seals/loss of lubricating oil and components/extended down time/loss of production	Check to see if auxiliary oil pump is on and shut off
High 40 psi	Oil pressure too high	Damage to oil seals/loss of lubricating oil and components/extended down time/loss of production	Check to see if auxiliary oil pump is on and shut off
Normal 35 – 36 psi	Normal	Normal	N/A
Low 20 psi	Oil pressure too low	Decrease oil flow to turbine bearings and components	Switch oil filter system/notify maintenance
Low/Low 20 psi	Oil pressure too low	Decrease oil flow to turbine bearings and components	Switch oil filter system/notify maintenance
Temperature (Oil) 140 –160 degrees F.	Normal operating oil temperature	Normal operating oil temperature	N/A

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.

Page 4 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 11:40:02 AM
Prepared by: Shane T. Passey*

AGR-CBI_000313

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Switching Terry Turbine primary oil filter system to the secondary oil filter system.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____

Page 5 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 11:40:02 AM
Prepared by: Shane T. Passey*

AGR-CBI_000314

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations

EAST SULFURIC
Blowing Down The Waste Heat Boilers
(#1 or #2)

East Sulfuric-General -01

11/08/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to perform Blowing down the #1 or #2 waste heat boiler.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: N/A

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 10:35:35 AM
Prepared by: Shane T. Passey*

Blowing down #1 or #2 waste heat boilers

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none">• Hardhat• Safety glasses• Steel-toed boots• Leather gloves• Tyvek suit.• Face shield	<ul style="list-style-type: none">• Exposure to hot boiler water.	N/A

TASKS:

1. Open valves
2. Close valves

<p style="text-align: center;">DANGER</p> <p style="text-align: center;">THIS PROCEDURE MUST BE FOLLOWED STEP BY STEP AS IT IS WRITTEN TO PREVENT PERSONNAL INJURY, DEATH, PLANT SHUTDOWN, DESTRUCTION OF MAJOR PIECES OF EQUIPMENT, FIRE OR ENVIRONMENTAL VIOLATIONS.</p>
--

Steps		Key Points	PPE/Hazards
1.	Open knife valve located on Northwest end of boiler slowly.		<ul style="list-style-type: none">• Hardhat• Safety glasses• Steel-toed boots• Leather gloves• Face shield• Tyvek suit.
2.	Open block wheel valve located on Northwest end of boiler slowly.		

<p style="text-align: center;">NOTE</p> <p style="text-align: center;">Let blow down line blow for 20-30 seconds depending on blow down needs. Determined by the sample analysis of the boiler water.</p>

Blowing down #1 or #2 waste heat boilers

Steps		Key Points	PPE/Hazards
3.	Close block wheel valve located on Northwest end of boiler slowly.		
4.	Close knife valve located on northwest end of boiler slowly.		

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High/High 1300 ppm TDS	Boiler water TDS levels too high	Sludge buildup of boiler internals	Increase bottom blow down
High 1250 ppm TDS	Boiler water TDS levels too high	Sludge buildup of boiler internals	Increase bottom blow down
Normal 800-1200 ppm TDS	Normal	Normal	N/A
Low 700 ppm TDS	Boiler water TDS levels too low	N/A	Decrease bottom blow down
Low/Low 600 ppm TDS	Boiler water TDS levels too low	N/A	Decrease bottom blow down



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations

**Standard Operating Procedures
Agrium Operations**

EAST SULFURIC

**Sample/Analyze Cation Water Unit Free Mineral
Acidity (FMA)**

East Sulfuric-Treated/Raw Water System-01

11/22/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to sample/analyze cation water unit free mineral acidity (FMA).

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: 50-milliliter (ml) crucible, Special indicator 260, and sodium carbonate.

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 10:35:03 AM
Prepared by: Shane T. Passey*

AGR-CBI_000319

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Sample/analyze cation water unit FMA

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Safety glasses • Steel-toed boots 		

TASKS:

1. Titrate Water/solution combination

Steps	Key Points	PPE/Hazards
1. Measure 50 milliliters of clear Cation water into crucible.		<ul style="list-style-type: none"> • Safety glasses • Steel-toed boots

NOTE

If gray color results, the FMA is zero.

2.	Add 5 drops of special indicator solution 260.		
----	--	--	--

NOTE

If pink color appears

3.	Titrate with sodium carbonate until on drop turns entire solution to blue gray.		
----	---	--	--

NOTE

FMA in ppm as CaCO₃ = 20 x ml of sodium carbonate.

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High/High 110 ppm	Cation water unit FMA levels above normal	Decreased service life	N/A
High 100 ppm	Cation water unit FMA levels above normal	Decreased service life	N/A
Normal 70 ppm	Normal	Normal	N/A
Low 50 ppm	N/A	N/A	N/A
Low/Low 40 ppm	N/A	N/A	N/A

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____

Page 4 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 10:35:03 AM
Prepared by: Shane T. Passey*



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations

EAST SULFURIC
Pressuring Up The Steam Tracing System
East Sulfuric-Steam System-01

12/02/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to pressure up the steam tracing system

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: valve wrench

Page 1 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 10:34:29 AM
Prepared by: Shane T. Passey*

Pressuring up the steam tracing system

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none">• Hardhat• Safety glasses• Steel-toed boots• Leather gloves• Tyvek suit.• Face shield	<ul style="list-style-type: none">• Water hammer• Steam line rupture due to thermal shock• Exposure to hot condensate	N/A

TASKS:

1. Open valves
2. Close valves

DANGER

It is important to remove condensate from the steam mains as quickly as possible, for reasons of safety and to permit greater plant efficiency. A buildup of water can lead to water hammer, capable of fracturing piping fittings and valves.

Water hammer occurs when a slug of water, pushed by steam pressure along a pipe instead of draining away at the low points, is suddenly stopped by impact on a valve fitting such as a pipe bend or Tee. The velocities that such slugs of water can achieve are not often appreciated. They can be much higher than the normal steam velocity in the pipe, especially when the water hammering is occurring at start up. When these velocities are destroyed, the kinetic energy in the water is converted into pressure energy and a pressure shock is applied to the obstruction (Valve, bend or Tee) In mild cases there is noise and movement of the pipe. More severe cases may lead to fractures of piping with almost explosive effect and consequent escape of live steam at these fractures.

NOTE

Condensate is removed from the steam tracing system by way of steam traps, therefore opening condensate bleed valves is unnecessary

Pressuring up the steam tracing system

Steps		Key Points	PPE/Hazards
1.	Open the steam tracing main manual block valve between track #8 and #9 slowly until steam flow is detected.		<ul style="list-style-type: none">• Hardhat• Safety glasses• Steel-toed boots• Leather gloves• Face shield• Tyvek suit.

CAUTION

Must allow time for condensate removal and pipe expansion.

2.	Open the steam tracing main manual block valve between track #8 and #9 100%		
----	---	--	--

Page 3 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 10:34:29 AM
Prepared by: Shane T. Passey*

AGR-CBI_000325

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Pressuring up the steam tracing system

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High/High 135 psi	Overpressure of the tracing system	Possible rupture of trace tubing/component freeze up	Make adjustments to 125# system
High 130 psi	Overpressure of the tracing system	Possible rupture of trace tubing. component freeze up	Make adjustments to 125# system
Low 120 psi	N/A	N/A	Make adjustments to 125# system
Low/Low 110 psi	N/A	N/A	Make adjustments to 125# system

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations

**Standard Operating Procedures
Agrium Operations**

**EAST SULFURIC
Normal Adjustments To The 5# Steam System
East Sulfuric-Steam System-01**

12/02/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to make adjustments to the 5# steam system

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: N/A

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 10:33:32 AM
Prepared by: Shane T. Passey*

AGR-CBI_000328

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Adjusting the 5# steam system

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> Steel-toed boots 		

TASKS:

1. Open valves
2. Close valves

NOTE

The 5# steam system regulates the temperature of the deareator tank

Steps		Key Points	PPE/Hazards
1.	Push "Steam Control" hot button on the Distribution Control System (DCS) overview screen to show the faceplate controller.		<ul style="list-style-type: none"> Hardhat Safety glasses Steel-toed boots Leather gloves Face shield Tyvek suit.
2.	Click the "Hot button" marked DA TANK to show the DA Tank graphics screen.		

NOTE

5# control demand valve will be in the "Auto mode" during normal operation

3.	Click on the 25/5# steam demand valve control graphic to show the control faceplate.		
4.	Click the white up/down arrows to increase/decrease the demand control steam set point		

Adjusting the 5# steam system

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High/High 10 psi	Over pressure of system	Overheating of deareator water	Close back on the 5# demand controller
High 7.5 psi	Over pressure of system	Overheating of deareator water	Close back on the 5# demand controller
Normal 6.0 psi	Normal	Normal	None
Low 4.0 psi	Under pressure of the 5# steam system	In adequate heating of the Deareator water	Open upon the 5# demand controller
Low/Low 3.5	Under pressure of the 5# steam system	In adequate heating of the Deareator water	Open upon the 5# demand controller
Temperature 220 degrees F.	Normal	Normal	None
Pressure 6.0 psi	Normal	Normal	None

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.

Page 3 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 10:33:32 AM
Prepared by: Shane T. Passey*



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations

EAST SULFURIC
Controlling The Cooling Tower pH
East Sulfuric-Acid System-01

11/22/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to perform controlling the cooling tower pH.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: N/A

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 10:33:22 AM
Prepared by: Shane T. Passey*

AGR-CBI_000332

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Controlling the cooling tower pH

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> Steel-toed boots 		

TASKS:

- Adjustments made to the distribution control system (DCS).

Steps		Key Points	PPE/Hazards
1.	Click on the "Acid Cooler" hot button on the DCS overview screen.		<ul style="list-style-type: none"> Steel-toed boots
2.	Locate the cooling tower graphic on the acid system overview screen.		
3.	Locate the acid injection control graphic.		
4.	Double click on the "ON TIME" data box.		
5.	Enter desired time in seconds.		
6.	Click "ENTER"		
7.	Double click on the "OFF TIME" data box.		
8.	Enter desired time in minutes.		
9.	Click "ENTER"		

NOTE

Desired pH of the cooling tower water is – approx. 6.7 – 7.3

10.	Sample cooling tower water and monitor the DCS pH readout to determine if desired pH was obtained		
-----	---	--	--

Controlling the cooling tower pH

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High/High 8.5 ph			
High 8.0 pH			
Normal 6.7 – 7.2 pH	Normal	Normal	N/A
Low 6.5 pH	PH too low	Corrosion of acid cooler internals/loss of cooling capabilities/loss of production/extended down time	
Low/Low 6.0 pH	PH too low	Corrosion of acid cooler internals/loss of cooling capabilities/loss of production/extended down time	

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations

EAST SULFURIC
Transfer From #2 98% Tank To #1 98% Tank
East Sulfuric-Acid System-01

11/22/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to transfer from #2 98% tank to #1 98% tank.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: Valve wrench

Page 1 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 10:32:22 AM
Prepared by: Shane T. Passey*

Transfer from #2 98% tank to #1 98% tank

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Tyvek suit. • Face shield 		

TASKS:

1. **Open valves**
2. **Close valves**

Steps		Key Points	PPE/Hazards
1.	Open the dump valve from valve cluster to the #1 98% tank. (Bottom valve)		<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Face shield • Tyvek suit.
2.	Close the cooler drain pump discharge valve (Top south valve of valve cluster)		
3.	Close the West valve on the valve cluster platform.		
4.	Open the Northeast block valve of the valve cluster on platform above the #1 98% tank.		
5.	Open the manual transfer block valve on top of the Tailgas Tank		
6.	Click the "TAILGAS TANK" hot button on the DCS overview screen to show control faceplate.		
7.	Click data entry box.		

Transfer from #2 98% tank to #1 98% tank

Steps		Key Points	PPE/Hazards
8.	Enter desired tank level in percentage.		
9.	Click "Enter"		

Page 3 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 10:32:22 AM
Prepared by: Shane T. Passey*

Transfer from #2 98% tank to #1 98% tank

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
High/High	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High			
Low			
Low/Low			
Temperature			
Pressure			

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.

Page 4 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 10:32:22 AM
Prepared by: Shane T. Passey*

AGR-CBI_000339
SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations

Standard Operating Procedures Agrium Operations

EAST SULFURIC Sample/Analyze Waste Heat Boiler Water SO₃ (Sulfite) Levels (#1 or #2)

East Sulfuric-Treated/Raw Water System-01

11/22/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instructions on how to sample/analyze #1 or #2 waste heat boiler water SO₃ (Sulfite) levels.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: 50-milliliter (ml) crucible, solution SO 613 (ST-1) and Solution 614 (ST-2)

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 10:32:18 AM
Prepared by: Shane T. Passey*

AGR-CBI_000341

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Sample/Analyze #1 or #2 waste heat boiler water SO3 (Sulfite) levels

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Safety glasses • Steel-toed boots 		

TASKS:

1. Sample/analyze waste heat boiler water

Steps		Key Points	PPE/Hazards
1.	Measure 50 milliliter (ml) of sample into the crucible.		<ul style="list-style-type: none"> • Safety glasses • Steel-toed boots
2.	Add one rounded scoop (0.5 gram) of solution 613 (ST-1) to the sample.		
3.	Stir gently for approx. 10 seconds.		
4.	Open bottle of solution 614 (ST-2).		
5.	Fill dropper with solution 614 (ST-2)		
6.	Hold dropper vertically		
7.	Add solution 614 to the sample, counting carefully the number of drops needed to turn the entire sample blue.		

NOTE

Calculation: ppm SO3 = (2.5) x (N-1)

Where: N = the number of drops of solution 614 used in step 7.

Calculation chart can be found in the lab area on the north wall.

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High/High 50 ppm	Boiler water sulfite levels too high	Chemical waste	Decrease speed/stroke of the Nalco 1720 injection pump
High 45 ppm	Boiler water sulfite levels too high	Chemical waste	Decrease speed/stroke of the Nalco 1720 injection pump
Normal 35 ppm	Normal	Normal	N/A
Low 25 ppm	Boiler water sulfite levels too low	Corrosion of boiler feed water components, D.A. Tank, boilers etc.	Increase speed/stroke of the Nalco 1720 injection pump
Low/Low 20 ppm	Boiler water sulfite levels too low	Corrosion of boiler feed water components, D.A. Tank, boilers etc	Increase speed/stroke of the Nalco 1720 injection pump

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations

**Standard Operating Procedures
Agrium Operations**

**EAST SULFURIC
Sample/Analyze Waste Heat Boiler Water Total
Dissolved Solids (TDS)
(#1 or #2)
East Sulfuric-Treated/Raw Water System-01**

11/22/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to sample/analyze #1 or #2 waste heat boiler water total dissolved solid (TDS) levels.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: Beaker, Phenol, Gallic acid and Conductivity meter.

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 10:31:13 AM
Prepared by: Shane T. Passey*

AGR-CBI_000345

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Sample/Analyze #1 or #2 waste heat boiler Total Dissolved Solids

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Safety glasses • Steel-toed boots 		

TASKS:

1. Sample/analyze waste heat boiler water TDS

Steps		Key Points	PPE/Hazards
1.	Fill beaker with approx. 200 milliliters (mls) of sample.		<ul style="list-style-type: none"> • Safety glasses • Steel-toed boots
2.	Add 4 drops of phenol.		
3.	Dissolve Gallic acid into sample until solution turns clear.		
4.	Insert Conductivity probe into sample.		
5.	Record reading		

NOTE

Conductivity measured in umho's

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High/High 1225 ppm	Boiler total dissolved solid level too high	Sludge buildup of boiler internals	Increase bottom blow down
High 1200 ppm	Boiler total dissolved solid level too high	Sludge buildup of boiler internals	Increase bottom blow down
Normal 900 ppm	Normal	Normal	Normal
Low 800 ppm	Boiler total dissolved solid level too low	N/A	Decrease bottom blow down/decrease continuous blow down setting
Low/Low 775 ppm	Boiler total dissolved solid level too low	N/A	Decrease bottom blow down/decrease continuous blow down setting

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____

Page 4 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 10:31:13 AM
Prepared by: Shane T. Passey*

AGR-CBI_000348

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**



Conda Phosphate Operations

Standard Operating Procedures

Agrium Operations

EAST SULFURIC

Normal Adjustments To The 250# High Pressure

Steam System

East Sulfuric-Steam System-01

12/02/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to make normal adjustments to the 250# high pressure steam.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: N/A

Page 1 of 4

This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 10:31:07 AM

Prepared by: Shane T. Passey

AGR-CBI_000349

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Adjusting the 250# high pressure steam

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots 		N/A

TASKS:

1. Open valves
2. Close valves

Steps		Key Points	PPE/Hazards
1.	Push "Steam Control" hot button on the DCS screen.		<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots
2.	Locate the 250# controller faceplate #23PIC022.		

NOTE

The 250/125# letdown auto controller is in the "Auto mode" during normal operation. The 250/125# demand controller is always in the "manual mode" during normal operation. Follow the 250/125# letdown valve position with the 250/125# demand valve until the 250/125# letdown valve stabilizes and maximum 250# steam pressure is obtained.

CAUTION

Adjustments to the 250/125# letdown set point should be made in one pound or one percent increments. Larger erratic adjustments may cause over pressure of the 250# steam system or may cause the relief valves of the #1 waste heat boiler to activate and could cause damage to the steam system, loss of production and prolonged downtime.

3.	Push up/down arrows on faceplate to increase or decrease steam pressure as desired.	White arrows.	
----	---	---------------	--

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High/High 265 psi	Over pressure of system	Pop off release	Open slightly on the demand controller
High 240 psi	Over pressure of system	Pop off release	Open slightly on the demand controller
Normal 235 psi	Normal	Normal	N/A
Low 220 psi	Undersupply of steam to customer	Loss of production	Close back on demand controller
Low/Low 210 psi	Undersupply of steam to customer	Loss of production	Close back on demand controller
Temperature 398 degrees F.	Normal	-	-
Pressure 235 psi	Normal	-	-

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____

Page 4 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 10:31:07 AM
Prepared by: Shane T. Passey*

AGR-CBI_000352

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations

EAST SULFURIC
Draining The Deareator Tank
East Sulfuric-General-01

11/16/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to drain the Deareator Tank. (D.A. Tank)

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: Valve wrench.

Page 1 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 10:27:43 AM
Prepared by: Shane T. Passey*

Draining the Deareator Tank

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Rubber gloves • Tyvek suit. • Face shield 	<ul style="list-style-type: none"> • Exposure to hot water 	N/A

TASKS:

1. Close valves
2. Remove cover plate

NOTE

The inlet water manual block valve is located in the Deareator building above the control room and is situated in the southeast corner of the building.

	Steps	Key Points	PPE/Hazards
1.	Close the Deareator automatic level controller valve.		<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Rubber gloves • Face shield • Tyvek suit.
2.	Click on the "Hot Button" labeled "DA tank" on the distribution control system (DCS) to show the faceplate.		
3.	Enter 0% in the percentage data entry box.		
4.	Close the inlet water manual block valve.		

Draining the Deareator Tank

5.	Close the discharge water manual block valve.		
----	---	--	--

Page 3 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 10:27:43 AM
Prepared by: Shane T. Passey*

Draining the Deareator Tank

Steps		Key Points	PPE/Hazards
6.	Click on the "Hot Button" labeled "5# steam to show the faceplate.		
7.	Enter 0% in the percentage data entry box.		
8.	Close the inlet manual block valves on East and West Boiler Feed Water Pump.		
9.	Close the discharge manual block valves on East and West Boiler Feed Water Pump.		

CAUTION

Use caution when removing the inspection of the check valve located in the Boiler Feed Water line located to the North end of the East Boiler Feed Water Pump. Water is extremely hot. Wear appropriate PPE to minimize the possibility of personal injury. Loosen the bottom bolts of the cover to allow the water to begin to drain downward and away from the body.

10.	Remove the inspection cover of the check valve located in the Boiler Feed Water line and allow D.A. tank to drain.		
-----	--	--	--



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations

Standard Operating Procedures Agrium Operations

EAST SULFURIC Adjusting The Terry Turbine Oil Coolers East Sulfuric-General-01

11/22/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to perform adjustments to the terry turbine oil coolers.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: Valve wrench.

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 10:27:35 AM
Prepared by: Shane T. Passey*

AGR-CBI_000358

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Adjusting the terry turbine oil coolers

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Tyvek suit. • Face shield 		

TASKS:

1. Open valves
2. Close valves

Steps		Key Points	PPE/Hazards
1.	Determine which cooler is in service.		<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Face shield • Tyvek suit.

NOTE

Results of cooler adjustments may take a few minutes. Monitoring of the oil temperature gauge is necessary until the oil has leveled out according to the adjustments made.

DANGER

Never leave the Terry Turbine immediately after adjustments have been made. Oil temperatures must be maintained in prescribed ranges to prevent equipment damage and/or unnecessary down time.

Page 2 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 10:27:35 AM
Prepared by: Shane T. Passey*

Adjusting the terry turbine oil coolers

Steps		Key Points	PPE/Hazards
2.	Open cooling water inlet block valve to cool oil.		
3.	Close cooling water inlet block valve to heat oil.		

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High/High 165 degrees F.	Terry Turbine oil too hot	Damage to turbine bearings/components	Increase cooling water flow through oil cooler
High 165 degrees F.	Terry Turbine oil too hot	Damage to turbine bearings/components	Increase cooling water flow through oil cooler
Normal 140-160 degrees F.	Normal	Normal	N/A
Low 135 degrees F.	Terry Turbine oil too cold	Increase in turbine oil pressure/possible blower shutdown/loss of production	Decrease cooling water flow through oil cooler
Low/Low 130 degrees F.	Terry Turbine oil too cold	Increase in turbine oil pressure/possible blower shutdown/loss of production	Decrease cooling water flow through oil cooler

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.

Page 3 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 10:27:35 AM
Prepared by: Shane T. Passey*

AGR-CBI_000360

SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____

Page 4 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 10:27:35 AM
Prepared by: Shane T. Passey*

AGR-CBI_000361

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**



Conda Phosphate Operations

Standard Operating Procedures Agrium Operations

EAST SULFURIC Sample/Analyze Waste Heat Boiler Water OH- Alkalinity (#1 or #2) East Sulfuric-Treated/Raw Water System-01

11/22/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to sample/analyze #1 or #2 waste heat boiler water OH-Alkalinity.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: 50-milliliter (ml) crucible, beaker, solution 209 (BaCl₂ crystals), 1/50 NH₂SO₄ and P-indicator.

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 10:26:38 AM
Prepared by: Shane T. Passey*

AGR-CBI_000362

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Sample/Analyze #1 or #2 waste heat boiler water O-Alkalinity

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Safety glasses • Steel-toed boots 		

TASKS:

1. Sample/analyze boiler water

Steps		Key Points	PPE/Hazards
1.	Measure 50 ml of clear boiler water sample in to crucible.		<ul style="list-style-type: none"> • Safety glasses • Steel-toed boots
2.	Add one 0.5 gram scoop of solution 209 (BaCL2 crystals)		
3.	Mix and wait 5 minutes.		
4.	Add 2 drops of P- indicator	Red color should appear	
5.	Titrate with 1/50 NH2SO4 until sample color returns to its original color.		

NOTE

Calculation: OH – Alkalinity = 20 x mls used

Example: 230 x 11.2 ml = 224 ppm O-alkalinity

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High/High 450 ppm	OH alkalinity levels above normal	Proper alkaline balance of boiler water compromised	Increase Boiler continuous blow down
High 425 ppm	OH alkalinity levels above normal	Proper alkaline balance of boiler water compromised	Increase Boiler continuous blow down
Normal 200-400 ppm	Normal	Normal	N/A
Low 175 ppm	OH alkalinity levels below normal	Proper alkaline balance of boiler water compromised	Decrease boiler continuous blow down/add caustic flake/pearls to chemical feed tanks
Low/Low 170 ppm	OH alkalinity levels below normal	Proper alkaline balance of boiler water compromised	Decrease boiler continuous blow down/add caustic flake/pearls to chemical feed tanks

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____

Page 4 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 10:26:38 AM
Prepared by: Shane T. Passey*

AGR-CBI_000365

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations

EAST SULFURIC
Filling The Deareator Tank
East Sulfuric-General-01

11/16/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to fill the Deareator Tank.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: Valve wrench.

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 10:25:27 AM
Prepared by: Shane T. Passey*

Filling The Deareator Tank

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Tyvek suit. • Face shield 		

TASKS:

1. Open valves.
2. Close valves.
3. Start pump.
4. Stop pump.

Steps		Key Points	PPE/Hazards
1.	Start "A" or "B" demineralizer (demin.) pump.		<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Face shield • Tyvek suit.
2.	Open the manual inlet and outlet block valves to the automatic valve are 100% open. (Located in the southeast corner of the Deareator Tank building)		
3.	Locate the levels column on the DCS workstation.		
4.	Click on the indication to show the faceplate.		

Page 2 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 10:25:27 AM
 Prepared by: Shane T. Passey*

Filling The Deareator Tank

Steps		Key Points	PPE/Hazards
5.	Verify that the valve is in the "AUTO" mode.		
6.	Enter desired percentage in the box. (58% normal)		

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
High/High	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High			
Low			
Low/Low			
Temperature			
Pressure			

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.

Page 3 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 10:25:27 AM
Prepared by: Shane T. Passey*

AGR-CBI_000368

SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations

EAST SULFURIC
Draining the #2 Waste Heat Boiler (#2 WHB)
East Sulfuric-General-01

11/17/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to drain the #2 waste heat boiler (#2 WHB).

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: Proper sized combination end wrench, channel lock pliers.

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 10:25:25 AM
Prepared by: Shane T. Passey*

Draining the #2 waste heat boiler

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none">• Hardhat• Safety glasses• Steel-toed boots• Leather gloves• Tyvek suit.• Face shield		

TASKS:

1. Open valves.
2. Close valves.
3. Remove blank
4. Connect drain hose

DANGER

THIS PROCEDURE MUST BE FOLLOWED STEP BY STEP AS IT IS WRITTEN TO PREVENT PERSONNAL INJURY, DEATH, PLANT SHUTDOWN, DESTRUCTION OF MAJOR PIECES OF EQUIPMENT, FIRE OR ENVIRONMENTAL VIOLATIONS.

NOTE

The bottom blow down valves for the #2 Waste Heat Boiler are located are ground level on the West side of the #1 Waste Heat Boiler. The #2 Waste Heat Boilers blow down valves are on the bottom, below the #1 Waste Heat Boiler's valves. The inside manual knife block valve is handle operated and the outside gate manual block valve is wheel operated.

NOTE

Connecting a drain hose from to the bottom of the manual blow down valve discharge line is necessary to drain the boilers. Once the initial pressure is relieved from the boiler, the water will not travel upward along the normal blow down lines to the sump. Water must be drained to the wastewater trough by way of gravity flow.

Draining the #2 waste heat boiler

Steps		Key Points	PPE/Hazards
1.	Remove the blank at the corner of the blow down valves discharge piping.		<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Face shield • Tyvek suit.
2.	Install flanged cam lock fitting in place of the blank.		
3.	Connect a drain hose to the cam lock fitting.		
4.	Place the drain hose in the wastewater trough just inside the utility building and north of East Boiler feed pump.		

CAUTION

Flag the drain area to alert personnel of possible danger from exposure to hot water. Ensure the hose is secured in the trough and open the blow down valves slowly to prevent the drain hose from whipping about during draining.

5.	Open the inside manual knife block valve slowly.		
6.	Open the outside manual block wheel valve slowly.		

CAUTION

Do not attempt to open the 1" steam drum vent valve until the bottom manual blow down valves have been open for a minute or two and the internal pressure of the boiler has been drained off. Possible injury could occur to personnel should the vent valve be opened under "Test" pressure.

7.	Open the 1" steam drum vent valve to release vacuum from the boilers internals and allow water to drain from the boiler		
----	---	--	--

Page 3 of 4

This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 10:25:25 AM
Prepared by: Shane T. Passey

AGR-CBI_000372

SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations

EAST SULFURIC
Adjusting The Drying Tower And #1 Absorbing
Tower Acid Flows
East Sulfuric-Acid System-01

11/18/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to make adjustments to the Drying Tower and the #1 Absorbing Tower acid flows.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: N/A

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 10:24:19 AM
Prepared by; Shane T. Passey*

Adjusting the Drying Tower and #1 Absorbing Tower acid flows

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Tyvek suit. • Face shield 		

TASKS:

1. Open valves
2. Close valves

NOTE

Adjusting chain valve for the Drying Tower will create flow changes in the #1 absorbing Tower. Adjusting the #1 Absorbing Tower chain valve will create flow changes in the Drying Tower. Adjustment to one chain valve usually dictates an adjustment to the other.

NOTE

Normal Acid flow for the Drying Tower is Approx. 1,600 gallon per minute (gpm).
Normal Acid flow for the #1 Absorbing Tower is approx. 3,400 gpm.

Steps		Key Points	PPE/Hazards
1.	Open or close manual chain valves as needed.		<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Face shield • Tyvek suit.
2.	Monitor Drying and absorbing tower flows on the distribution control system for desired flows.		
3.	Re-adjust manual chain valves if needed		

Page 2 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 10:24:19 AM
Prepared by; Shane T. Passey*

AGR-CBI_000375

SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES

Adjusting the Drying Tower and #1 Absorbing Tower acid flows

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
High/High 1700 gpm (Drying Tower) 3500gpm (#1 Absorbing Tower)	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High 1650 gpm 3450 gpm			
Low 1575gpm 3375gpm			
Low/Low 1550gpm 3350gpm			
Temperature			
Pressure			

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations

Standard Operating Procedures Agrium Operations

EAST SULFURIC Sample/Analyze Cation Water Unit Hardness East Sulfuric-Treated/Raw Water System-01

11/22/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to Sample/Analyze the cation water unit hardness level.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: 50-milliliter crucible, H-2 solution, LH-1 solution,

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 10:24:18 AM
Prepared by: Shane T. Passey*

AGR-CBI_000378

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Sample/Analyze Cation water unit hardness

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Safety glasses • Steel-toed boots 	<ul style="list-style-type: none"> • Exposure to sampling chemicals 	N/A

TASKS:

1. Titrate Water/solution combination

Steps		Key Points	PPE/Hazards
1.	Measure 100 Milliliter (ml) of clear cation water sample into crucible.		<ul style="list-style-type: none"> • Safety glasses • Steel-toed boots
2.	Add one ml H-2 solution (buffer)		
3.	Mix sample and solution.		
4.	Add one ml of LH-1 (indicator solution)		

NOTE

Sample color change – Red to sky blue

PPM total dissolved hardness as CaCO₃ = (20) x ml of titrant

5.	Titrate sample with H-1 (hardness titrating solution)		
6.	Record ml of titrant.		

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
High/High	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High			
Low			
Low/Low			
Temperature			
Pressure			

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations

Standard Operating Procedures Agrium Operations

EAST SULFURIC Putting C Anion Water Unit In Service East Sulfuric-Treated/Raw Water System-01

11/16/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to put C Anion water unit in Service.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: N/A

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 10:23:12 AM
Prepared by: Shane T. Passey*

AGR-CBI_000382

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Putting C Anion Water Unit in Service

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Tyvek suit. • Face shield 	N/A	N/A

TASKS:

1. Access water unit faceplate controls on the distribution control system. (DCS)

Steps		Key Points	PPE/Hazards
1.	Select D Cation/C Anion Control hot button.		<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Face shield • Tyvek suit.
2.	Select D Cation/C Anion Control hot button.		
3.	Put C anion water unit in service	Refer to putting C anion water unit in service	
4.	Select "IN SERVICE" hot button for the C Anion unit.		
5.	Start #2 decarbonator fan and pump	Refer to starting #2 decarbonator fan and pump	

Putting C Anion Water Unit in Service

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High/High 14.0 pH	Ph too high	Increased hardness levels of the water storage tank	Regenerate "D" Cation
High 9.5 pH	Ph too high	Increased hardness levels of the water storage tank	Regenerate "D" Cation
Normal 8.0 pH	Normal	Normal	N/A
Low 7.0 pH	Ph too low	Decreased ph of water storage tank	Regenerate "C" Anion
Low/Low 6.5 pH	Ph too low	Decreased ph of water storage tank	Regenerate "C" Anion
Pressure 85 psi	Normal service pressure	Normal service pressure	N/A

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.

Page 3 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 10:23:12 AM
Prepared by: Shane T. Passey*

AGR-CBI_000384

SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations

Standard Operating Procedures

Agrium Operations

EAST SULFURIC

Adjusting The Acid Cooler Bypass Auto Valves (Common, F.A.T. and 93% Cooler)

East Sulfuric-Acid System-01

11/18/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to make adjustments to the Common, F.A.T. and 93% acid cooler bypass auto valves.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: N/A

Page 1 of 4

This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 10:23:11 AM

Prepared by; Shane T. Passey

AGR-CBI_000386

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Adjusting the acid cooler automatic bypass valves.

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Tyvek suit. • Face shield 		

TASKS:

1. Accessing controls from the distribution control system (DCS).

<p align="center">DANGER</p> <p>Each cooler discharge manual chain block valves must be open (East end of coolers) to prevent line rupture and/or cooler damage. Automatic bypass valves must be 100% open until the manual chain block valves have been moved to 100% open.</p>	
---	--

Steps		Key Points	PPE/Hazards
1.	Click on "Cooler Temp Control" hot button to show auto controller face plate screen.		<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Face shield • Tyvek suit.
2.	Select desired acid temperature on auto bypass controller faceplate set point data box.		
3.	Select manual mode on bypass auto controller and select desired bypass valve setting depending on current acid temps.		

Adjusting the acid cooler automatic bypass valves.

Steps		Key Points	PPE/Hazards
4.	For minor adjustments of a few degrees. Select auto mode on auto bypass controller and move set point to desired acid temp. Auto mode will adjust as needed.		

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High/High 200 degrees F.	Acid too hot	Damage to cooler internals, cooling tower fill and possible visible emissions	Adjust cooler bypasses to cool acid/speed up cooling tower fans
High 190 degrees F.	Acid too hot	Damage to cooler internals, cooling tower fill and possible visible emissions	Adjust cooler bypasses to cool acid/speed up cooling tower fans
Low 170 degrees F.	Acid too cold	Exceed plant emissions limit	Adjust cooler bypasses to heat acid/speed up cooling tower fans
Low/Low 160 degrees F.	Acid too cold	Exceed plant emissions limit	Adjust cooler bypasses to heat acid/speed up cooling tower fans

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.

Page 3 of 4

This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 10:23:11 AM

Prepared by; Shane T. Passey

AGR-CBI_000388

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations

EAST SULFURIC
Continuous Emissions Monitor System (CEMS)
Daily Calibration Check
(O₂ & SO₂ Monitors)
East Sulfuric-General-01

11/16/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to make a daily calibration check on the continuous emissions monitoring system (CEMS).

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: N/A

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 10:19:21 AM
Prepared by: Shane T. Passey*

Daily continuous emissions monitor system calibration check.

PPE	Hazards	Environmental Considerations
N/A	N/A	Compliance with air quality regulations (40 CFR 60, appendix F)

TASKS:

1. Monitor readings
2. Write work order (if needed)

	Steps	Key Points	PPE/Hazards
1.	Log on to the daily operations spread sheet		
2.	Scroll to the bottom of the page.		

DANGER

If either the low or the high calibration drift is higher than +5.0 or less than -5.0 an emergency work order is required for the E/I group to adjust the SO2 CEMS and a DEQ notification must be submitted.

3.	Check the low and the high calibration (cal) drift SO2 values.		
----	--	--	--

DANGER

If either the low or the high calibration difference (diff) is higher than +2.0 or less than -2.0 an emergency work order is required for the E/I group to adjust the O2 CEMS and a DEQ notification must be submitted.

4.	Check the low and the high difference (diff) O2 values.		
----	---	--	--

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
High/High	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High			
Low			
Low/Low			
Temperature			
Pressure			

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations

Standard Operating Procedures

Agrium Operations

EAST SULFURIC

Adjusting The Liquid Caustic Metering Pump

East Sulfuric-Treated/Raw Water System –01

11/10/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to make adjustments to the liquid caustic metering pumps.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: N/A

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 10:14:57 AM
Prepared by: Shane T. Passey*

AGR-CBI_000394

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Adjusting the liquid caustic metering pumps

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Tyvek suit. • Face shield 	<ul style="list-style-type: none"> • Possible exposure to liquid caustic. 	Spills or leakage must be confined to containment area and cleaned up immediately.

TASKS:

1. Rotating meter pump adjustment knob.

NOTE

Adjustments will be determined by specific gravity analysis sample of the Anion water units when in caustic regeneration cycle.

Steps		Key Points	PPE/Hazards
1.	Rotate adjustment knob at the end of the meter pump clockwise to decrease pump.	Clockwise rotation will decrease caustic content to the water unit.	<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Face shield • Tyvek suit.
2.	Rotate adjustment knob at the end of the meter pump counter clockwise to increase pump.	Counter clockwise rotation will increase caustic content to the water unit.	

Adjusting the liquid caustic metering pumps

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
High/High	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High			
Low			
Low/Low			
Temperature			
Pressure			

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations

**Standard Operating Procedures
Agrium Operations**

EAST SULFURIC

**Transfer from #1 98% Tank To 93% Tank
East Sulfuric-Acid System-01**

11/22/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to transfer acid from the #1 98% tank to the 93% tank.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: Valve wrench

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 10:13:55 AM
Prepared by: Shane T. Passey*

AGR-CBI_000398

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Transferring from #1 tank to the 93% tank

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Tyvek suit. • Face shield 		

TASKS:

1. Open valves
2. Close valves

Steps		Key Points	PPE/Hazards
1.	Open the manual block valve on south side and bottom of the Drying Tower.		<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Face shield • Tyvek suit.
2.	Open the 98% to 93% manual block valve on top of the 93% tank.		
3.	Click "98 TANK" Hot button on the DCS overview screen to show control faceplate.		
4.	Click the data entry box.		
5.	Enter desired tank level in percentage.		
6.	Click "Enter"		

Transferring from #1 tank to the 93% tank

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
High/High	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High			
Low			
Low/Low			
Temperature			
Pressure			

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations

**Standard Operating Procedures
Agrium Operations**

**EAST SULFURIC
Controlling the 2000 hp. Booster Blower Inlet
Pressure
East Sulfuric-General-01**

11/22/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to Control the 2000 hp. Booster blower inlet pressure.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: N/A

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 10:13:54 AM
Prepared by: Shane T. Passey*

AGR-CBI_000402

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Controlling the 2000 hp. Booster blower inlet pressure

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Steel-toed boots • Leather gloves 		

TASKS:

Steps		Key Points	PPE/Hazards
1.	Click on the French Blower Inlet hot button on the distribution control system (DCS) overview screen to show the control faceplate.		<ul style="list-style-type: none"> • Steel-toed boots

NOTE

In normal operation the Booster Blower louver control is in the automatic mode.

The prescribed inlet pressure is + 1.0 - +2.0.

Opening the louvers will decrease the inlet pressure.

Closing the louvers will increase the inlet pressure.

2.	Click the up/down arrows to increase/decrease the inlet pressure.		
----	---	--	--

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High/High +4.0 inches	Too high positive pressure on the process gas system	Reduced production/possible blowing absorbing tower demister seal cup empty, increasing visible emissions/passing sulfuric mist through process/damage to ductwork and equipment.	Open booster blower inlet louvers slightly to reduce positive pressure of system.
High +3.0 inches	Too high positive pressure on the process gas system	Reduced production/possible blowing absorbing tower demister seal cup empty, increasing visible emissions/passing sulfuric mist through process/damage to ductwork and equipment.	Open booster blower inlet louvers slightly to reduce positive pressure of system
Normal +1.0 - +2.0 inches	Normal	Normal	N/A
Low + 0 inches	Too low positive pressure on the process gas system	N/A	N/A
Low/Low - 1.0 inches	Too low positive pressure on the process gas system	Risk sucking the absorbing tower demister seal cup empty increasing visible emissions/passing sulfuric mist through process/damage to ductwork and equipment.	Open booster blower inlet louvers slightly to reduce positive pressure of system



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations

EAST SULFURIC
Putting D Cation Water Unit In Service
East Sulfuric-Treated/Raw Water System-01

11/16/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to Put D cation water unit in service.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: N/A

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 10:12:46 AM
Prepared by: Shane T. Passey*

Putting D Cation water unit in service

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Tyvek suit. • Face shield 	N/A	N/A

TASKS:

1. Access water unit faceplate controls on the distribution control system. (DCS)

Steps		Key Points	PPE/Hazards
1.	Select water treatment hot button on the main DCS screen.		<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Face shield • Tyvek suit.
2.	Select D Cation/C Anion Control hot button.		
3.	Select "IN SERVICE" hot button for the D Cation unit		
4.	Start #2 Decarbonator fan and Pump	Refer to starting decarbonator fan and pump procedure.	

Putting D Cation water unit in service

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High/High 14.0 pH	Cation water pH too high		Regenerate "D" Cation
High 9.5 pH	Cation water pH too high		Regenerate "D" Cation
Normal 8.0 pH	Normal	Normal	N/A
Low 7.0 pH	Cation water pH too low	Ph of water storage tank will drop/increase hardness to boiler feed water	Regenerate "C" Anion
Low/Low 6.5 pH	Cation water pH too low	Ph of water storage tank will drop/increase hardness to boiler feed water	Regenerate "C" Anion
Pressure 85 psi	Normal operating pressure	Normal operating pressure	N/A

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations

**Standard Operating Procedures
Agrium Operations**

**EAST SULFURIC
Normal Adjustments To The 125# Steam System
East Sulfuric-Steam System-01**

12/02/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to make normal adjustments to the 125# steam system.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: N/A

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 10:12:43 AM
Prepared by: Shane T. Passey*

AGR-CBI_000410

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Adjusting the 125# steam system

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> Steel-toed boots 		

TASKS:

- Open valves
- Close valves

Steps		Key Points	PPE/Hazards
1.	Push "Steam Control" hot button on the Distribution Control System (DCS) overview screen to show the faceplate controller.		<ul style="list-style-type: none"> Steel-toed boots

NOTE

The 125/25# letdown auto controller is in the "Auto mode" during normal operation.
The 125/25# demand controller is always in the "manual mode" during normal operation

2.	Click the white up/down arrows to change the letdown control steam set point		
----	--	--	--

NOTE

Follow the 125/25# letdown valve position with the 125/25# demand valve until the 125/25# letdown valve stabilizes and maximum 125# steam pressure is obtained.

3.	Adjust the 125/25# demand controller open or closed depending on the position of the 125/25# letdown.		
----	---	--	--

Adjusting the 125# steam system

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High/High 135 psi	Over pressure steam system	Pop off release	Open slightly on the demand controller
High 130 psi	Over pressure steam system	Pop off release	Open slightly on the demand controller
Low 120 psi	Undersupply of steam to customer	Loss of production	Close back on demand controller
Low/Low 110 psi	Undersupply of steam to customer	Loss of production	Close back on demand controller

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations

**Standard Operating Procedures
Agrium Operations**

**EAST SULFURIC
Filling The Sulfuric Acid Regeneration Tank**

East Sulfuric-Treated/Raw Water System -01

11/08/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to perform filling the sulfuric acid regeneration tank.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: N/A

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 10:11:37 AM
Prepared by: Shane T. Passey*

AGR-CBI_000414

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Filling the sulfuric acid regeneration tank

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Tyvek suit. • Face shield 	<ul style="list-style-type: none"> • Exposure to sulfuric acid 	Any spills must be kept in containment area and clean up immediately.

TASKS:

1. Open chain valve.
2. Close chain valve.

Steps		Key Points	PPE/Hazards
1.	Open chain operated inlet block valve above regeneration storage tank 100%		<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Face shield • Tyvek suit.
2.	Monitor tank level on the DCS control screen.		

CAUTION

Do not rely on the automatic shut off valve as the means to control tank level. Overflow may occur and fill launder ditch and process waste sump with acid.

3.	Close inlet chain operated block valve when tank reaches full level.		
----	--	--	--

Filling the sulfuric acid regeneration tank

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High/High 7.0 Ft.	Tank full	Automatic shut off valve will activate	Close manual block valve
High 6.7 Ft.	Tank full	Normal	Close manual block valve
Normal 6.6 Ft.	Normal	Normal	N/A
Low 4.5 Ft.	N/A	N/A	Open manual block valve
Low/Low 2.0 Ft.	Tank too low	Risk not getting enough acid to water unit regeneration	Open manual block valve

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations

EAST SULFURIC
Adjusting The Sulfur Feed Flow
East Sulfuric-Sulfur Feed System-01

11/17/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to adjust the sulfur feed flow.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: N/A

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 10:11:29 AM
Prepared by: Shane T. Passey*

AGR-CBI_000418

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Adjusting the sulfur feed flow

PPE	Hazards	Environmental Considerations
• Steel-toed boots	N/A	N/A

TASKS:

- Adjustments to the distribution control system (DCS)

Steps		Key Points	PPE/Hazards
1.	Select the "SULFUR FLOW" hot button on the DCS main overview screen.		• Steel-toed boots

NOTE

Each "click" of the adjustment arrow equals 1/10 of one gallon of sulfur. Larger adjustments can be made by entering desired gallons per minute in the percentage data box.

2.	Click the arrows up to increase sulfur feed flow		
3.	Click the arrows down to decrease sulfur feed flow.		

Adjusting the sulfur feed flow

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High/High 48 gpm	Over prescribed flow rate	Exceed plant emission limits	Lower sulfur feed control setting
High 48 gpm	Over prescribed flow rate	Exceed plant emission limits	Lower sulfur feed control setting
Normal 47.9 gpm	Maximum allowed rate	Maximum allowed rate	N/A
Low 15 gpm	Probable sulfur gun plugged	Loss of production	Shut down/replace plugged gun(s)
Low/Low 10 gpm	Probable sulfur gun plugged	Loss of production	Shut down/replace plugged gun(s)
Temperature 296 degrees F.	Normal	Normal	N/A

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.

Page 3 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 10:11:29 AM
Prepared by: Shane T. Passey*

AGR-CBI_000420

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations

EAST SULFURIC
Sample/Analyze #1 or #2 Return Condensate
East Sulfuric-Treated/Raw Water System-01

11/22/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to sample/analyze #1 or #2 return condensate.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: Bench pH meter and 100-milliliter beaker.

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 10:10:29 AM
Prepared by: Shane T. Passey*

AGR-CBI_000422

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Sample/Analyze #1 or #2 return condensate

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Safety glasses • Steel-toed boots 		

TASKS:

1. Sample/analyze return condensate.

Steps		Key Points	PPE/Hazards
1.	Draw sample in beaker.		<ul style="list-style-type: none"> • Safety glasses • Steel-toed boots
2.	Rinse pH probe with distilled water		
3.	Place in sample		
4.	Turn meter on and let set until readout has stabilized.		
5.	Record reading		

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High/High 14.0 pH	Return condensate pH too high	N/A	Notify Phos Acid/ Granulation
High 14.0 pH	Return condensate pH too high	N/A	Notify Phos Acid/ Granulation
Normal 7.5 pH	Normal	Normal	N/A
Low 5.5 pH	Return condensate pH too low	Corrosion/damage to boiler internals and steam piping and components/extended downtime/loss of production	Manually dump both offending condensate system to waste water sump/depending on severity add caustic flake or pearls to water storage tank and/or boiler feed water chemical tanks
Low/Low 5.0 pH	Return condensate pH too low	Corrosion/damage to boiler internals and steam piping and components/extended downtime/loss of production	Manually dump both offending condensate system to waste water sump/depending on severity add caustic flake or pearls to water storage tank and/or boiler feed water chemical tanks

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations

EAST SULFURIC
Filling the South Caustic Tank

East Sulfuric-Treated/Raw Water System -01

11/08/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to perform filling of the south caustic tank.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: N/A

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 10:09:22 AM
Prepared by: Shane T. Passey*

AGR-CBI_000426

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Filling of the south caustic tank

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Hardhat • Safety glasses • Rubber gloves • Steel-toed boots • Face shield • Tyvek suit. 	<ul style="list-style-type: none"> • Exposure to liquid 52% caustic. 	Any leakage must be kept inside of containment area.

TASKS:

1. Start pump.
2. Stop pump.
3. Open chain valves
4. Close chain valves.

Steps		Key Points	PPE/Hazards
1.	Shut off south caustic tank circulation pump.		<ul style="list-style-type: none"> • Hardhat • Safety glasses • Rubber gloves • Steel-toed boots • Face shield • Tyvek suit.
2.	Open block valve on caustic transfer line from north to south tank.		
3.	Close block valve on north caustic tank circulation line.		
4.	Check south tank for flow and fill to recommended level.		
5.	Open north tank circulation block valve.		
6.	Close caustic transfer block valve.		
7.	Start south caustic circulating pump.		

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High/High 14.0 ft.	Tank full (Maximum level)	N/A	N/A
High 14.0 ft.	Tank full (Maximum level)	N/A	N/A
Low 6.0 ft.	Tank less than half full	N/A	N/A
Low/Low 4.0 ft	Tank level low	Risk not getting enough caustic to meter pumps for water unit regeneration	Transfer liquid caustic from North storage tank to south tank.

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations

**Standard Operating Procedures
Agrium Operations**

**EAST SULFURIC
Sample/Analyze Boiler Feed Water Hardness
East Sulfuric-Treated/Raw Water System-01**

11/22/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to Sample/Analyze the boiler feed water hardness level.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: 50-milliliter crucible, H-2 solution, and LH-1 solution.

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 10:09:21 AM
Prepared by: Shane T. Passey*

AGR-CBI_000430

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Sample/Analyze boiler feed water hardness level

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Safety glasses • Steel-toed boots 	<ul style="list-style-type: none"> • Exposure to sampling chemicals 	N/A

TASKS:

1. Titrate Water/solution combination

Steps		Key Points	PPE/Hazards
1.	Measure 50 Milliliter (ml) of clear cation water sample into crucible.		<ul style="list-style-type: none"> • Safety glasses • Steel-toed boots
2.	Add one ml H-2 solution (buffer)		
3.	Mix sample and solution.		
4.	Add one ml of LH-1 (indicator solution)		

NOTE

Sample color change – Red to sky blue
PPM total dissolved hardness as CaCO₃ = (20) x ml of titrant

5.	Titrate sample with H-1 (hardness titrating solution)		
6.	Record ml of titrant.		

Sample/Analyze boiler feed water hardness level

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High/High 2.0 ppm	Feed water hardness levels above normal	Buildup of boiler internals	Check water units service
High 1.0 ppm	Feed water hardness levels above normal	Buildup of boiler internals	Check water units service
Normal .2 ppm	Normal	Normal	Normal

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.

Page 3 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 10:09:21 AM
Prepared by: Shane T. Passey*

AGR-CBI_000432

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations

Standard Operating Procedures Agrium Operations

EAST SULFURIC Filling The Nalco 354 Chemical Tank

East Sulfuric-Treated/Raw Water System -01

11/08/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to perform filling the Nalco 354 chemical tank.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: 5-gallon transport bucket.

Page 1 of 3

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 9:57:15 AM
Prepared by: Shane T. Passey*

AGR-CBI_000434

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Filling the Nalco 354 chemical tank

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Hardhat • Safety glasses • Rubber gloves • Steel-toed boots • Face shield • Tyvek suit. 	<ul style="list-style-type: none"> • Exposure to high temperature water • Exposure to chemicals 	N/A

TASKS:

1. Open valves.
2. Close valves.
3. Transport chemicals.
4. Start mixers.

Steps		Key Points	PPE/Hazards
1.	Open block valves on water fill supply lines to the east Nalco 354 tank.		<ul style="list-style-type: none"> • Hardhat • Safety glasses • Rubber gloves • Steel-toed boots • Face shield • Tyvek suit.
2.	Start the agitator in the Nalco 354 tank.		
3.	Fill chemical bucket from the bulk tank in storage building. (Nalco 354)		
4.	Transport chemical to the water treatment room.		
5.	Add the chemical to the East Nalco 354 tank.		
6.	Shut off water when tank is full.		

Page 2 of 3

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 9:57:15 AM
Prepared by: Shane T. Passey*

AGR-CBI_000435

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations

EAST SULFURIC
Draining The #2 Waste Heat Boiler Side Of The
Economizer
East Sulfuric-General-01

11/ 17/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to drain the #1 waste heat boiler (#2WHB) side of the economizer.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: Valve wrench.

Page 1 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 9:56:55 AM
Prepared by: Shane T. Passey*

Draining the #2 waste heat boiler side of the economizer

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Tyvek suit. • Face shield 		

TASKS:

1. Open valves
2. Close valves

NOTE

Leaving the inlet manual block valve open 100% will not allow the Boiler Feed piping to drain as there is a check valve installed up stream of the inlet manual block valve. To drain the inlet piping it will be necessary to disconnect the piping upstream of the check valve to allow water to drain. Necessary only during prolonged winter down time.

Steps		Key Points	PPE/Hazards
1.	Open the discharge manual block valve 100% on the #2 Waste Heat Boiler (#2 WHB) side of the Economizer.		<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Face shield • Tyvek suit.
2.	Open the bottom inlet manual block valve 100% on the #2 WHB side of the Economizer.		
3.	Remove the pressure gauge from the port on the bottom of the inlet piping on the #2 WHB side of the Economizer.		
4.	Open the 1" gate valve and allow the water to drain from the #2		

Draining the #2 waste heat boiler side of the economizer

	WHB side of the Economizer.		
--	------------------------------------	--	--

Page 3 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 9:56:55 AM
Prepared by: Shane T. Passey*

AGR-CBI_000439
**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Draining the #2 waste heat boiler side of the economizer

Steps		Key Points	PPE/Hazards
5.	Open the 1" vent valve on top of the discharge piping to release the internal vacuum of the #2 WHB side of the Economizer and allow water to drain.		



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations

EAST SULFURIC
Draining The #1 Waste Heat Boiler Side of The
Economizer
East Sulfuric-General-01

11/17/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to drain the #1 waste heat boiler side of the economizer.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: Valve wrench.

Page 1 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 9:56:52 AM
Prepared by: Shane T. Passey*

Draining the #1 waste heat boiler side of the economizer

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Tyvek suit. • Face shield 		

TASKS:

1. Open valves
2. Close valves

NOTE

Leaving the inlet manual block valve open 100% will not allow the Boiler Feed piping to drain as there is a check valve installed up stream of the inlet manual block valve. To drain the inlet piping it will be necessary to disconnect the piping upstream of the check valve to allow water to drain. Necessary only during prolonged winter down time.

Steps		Key Points	PPE/Hazards
1.	Open the discharge manual block valve 100% on the #1 Waste Heat Boiler side of the Economizer.		<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Face shield • Tyvek suit.
2.	Open the bottom inlet manual block valve 100% on the #1 Waste Heat Boiler side of the Economizer.		
3.	Remove the pressure gauge from the port on the bottom of the inlet piping on the #1 Waste Heat Boiler side of the Economizer.		
4.	Open the 1" gate valve and allow the water to drain from the #1		

Draining the #1 waste heat boiler side of the economizer

	Waste Heat Boiler side of the Economizer.		
--	--	--	--

Page 3 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 9:56:52 AM
Prepared by: Shane T. Passey*

Draining the #1 waste heat boiler side of the economizer

Steps		Key Points	PPE/Hazards
5.	Open the 1" vent valve on top of the discharge piping to release the internal vacuum of the #1 Waste Heat Boiler side of the Economizer and allow water to drain.		



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations

EAST SULFURIC
Filling The Nalco 7200/Caustic Chemical Tank

East Sulfuric-Treated/Raw Water System -01

11/08/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to perform filling the Nalco 7200/caustic chemical tank.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: 5-gallon transport bucket, 1- gallon transport can.

Page 1 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 9:55:45 AM
Prepared by: Shane T. Passey*

AGR-CBI_000447

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Filling the Nalco 7200/caustic chemical tank

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Hardhat • Safety glasses • Rubber gloves • Steel-toed boots • Face shield • Tyvek suit. 	<ul style="list-style-type: none"> • Exposure to high temperature water • Exposure to chemicals 	N/A

TASKS:

1. Open valves.
2. Close valves.
3. Transport chemicals.
4. Start mixers.

Steps		Key Points	PPE/Hazards
1.	Fill chemical bucket from the bulk tank in storage building. (Nalco 7200)		<ul style="list-style-type: none"> • Hardhat • Safety glasses • Rubber gloves • Steel-toed boots • Face shield • Tyvek suit.
2.	Transport chemical to the water treatment room.		
3.	Add the 7200 chemical to the West Nalco 7200/caustic tank.		

CAUTION

Adding caustic "Pearls" to the 7200/caustic mixing tank after the tank has begun to fill with hot water will cause the "pearls" to violently erupt. "Pearls" must be added to the tank before adding water to prevent chemical/thermal burns.

Filling the Nalco 7200/caustic chemical tank

Steps		Key Points	PPE/Hazards
4.	Add determined amount of caustic "Pearls" to the West Nalco 7200/caustic tank slowly.		
5.	Open block valve on water fill supply line to the West Nalco 7200 tank.		
6.	Start the agitator in the Nalco 7200/caustic tank.		
7.	Shut off water when tank is full.		

Page 4 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 9:55:45 AM
Prepared by: Shane T. Passey*

AGR-CBI_000450

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____

Page 5 of 5

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 9:55:45 AM
Prepared by: Shane T. Passey*

AGR-CBI_000451

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations

EAST SULFURIC
Switching Sulfur Feed Pumps
(Normal or Emergency)
East Sulfuric-Sulfur System-01

11/17/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to perform a switching of the sulfur feed pumps.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: N/A

Switching the Sulfur feed pumps

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Hard hat • Safety glasses • Steel toed boots • Leather gloves • Tyvek suit • Face shield 	<ul style="list-style-type: none"> • Exposure to hot steam jacketed sulfur piping 	N/A

TASKS:

1. Open valves
2. Close valves
3. Stop pump
4. Start pump

DANGER

THIS PROCEDURE MUST BE FOLLOWED STEP BY STEP AS IT IS WRITTEN TO PREVENT PERSONNAL INJURY, DEATH, PLANT SHUTDOWN, DESTRUCTION OF MAJOR PIECES OF EQUIPMENT, FIRE OR ENVIRONMENTAL VIOLATIONS.

NOTE

This procedure can be used to switch from either the East or the West sulfur feed pump. For this example we will preceede as though the East pump is in service and will be switched to the East sulfur feed pump.

NOTE

Step #1 will be the responsibility of the "A" operator

Steps		Key Points	PPE/Hazards
1.	Push "SULFUR FEED" hot button on Distribution Control System (DCS) to show the faceplate controller.		<ul style="list-style-type: none"> • Hard hat • Safety glasses • Steel toed boots • Leather gloves • Tyvek suit • Face shield

Switching the Sulfur feed pumps

Steps		Key Points	PPE/Hazards
2.	Push the stop button on the faceplate.		
3.	Open West pump discharge valve 100%.		
4.	Close the East pump discharge valve 100%.		
5.	Throw the Sulfur feed pump selector switch to the West Pump position.		
6.	Notify the "A" operator that the switch has been made and to start the pump.		
7.			

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
High/High	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High			
Low			
Low/Low			
Temperature			
Pressure			

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations

EAST SULFURIC
Switching Terry Turbine Oil Coolers
East Sulfuric-General-01

11/22/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to Perform switching of the terry turbine oil coolers.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: Valve wrench

Page 1 of 3

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 9:55:22 AM
Prepared by: Shane T. Passey*

Switching terry turbine oil coolers

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Tyvek suit. 		

TASKS:

1. Open valves
2. Close valves

NOTE

The following procedure can be used for switching either cooler depending on which one is in service at the time. The East cooler will be used in this procedure as if it were in service and will be switched to the West cooler. The Cooling water discharge block valves of both coolers are always in the wide-open position. Opening or closing the inlet valves obtains temperature control.

Steps		Key Points	PPE/Hazards
1.	Observe the position of the inlet valve of the East oil cooler.		<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Tyvek suit.
2.	Open the West oil cooler inlet valve to the approx. position of the East cooler.		
3.	Close the inlet block valve of the East cooler.		

Switching terry turbine oil coolers

NOTE

Terry Turbine oil temperature should be 140 – 160 degrees. This temperature will also depend on the temperature of the Turbine bearings (140 –160 degree)

Steps		Key Points	PPE/Hazards
4.	Monitor the discharge oil temperature of the cooler.	Large temperature gauge at Turbine deck level.	
5.	Adjust temperature as needed.	Open valve to cool. Close to heat.	

Agrium

Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____

Page 3 of 3

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 9:55:22 AM
Prepared by: Shane T. Passey*

AGR-CBI_000458

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**



Conda Phosphate Operations

Standard Operating Procedures Agrium Operations

EAST SULFURIC Resetting of The Cooling Tower Deluge Valve

East Sulfuric-Treated/Raw Water System -01

11/08/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to perform resetting the cooling tower deluge valve.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: 12" crescent wrench.

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none">• Hardhat• Safety glasses• Steel-toed boots• Leather gloves	Pinch points	N/A

Page 1 of 3

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 9:54:43 AM
Prepared by: Shane T. Passey*

AGR-CBI_000459

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Resetting the cooling tower deluge valve

TASKS:

1. Close valves.
2. Open valves.
3. Remove deluge valve cover.

DANGER

THIS PROCEDURE MUST BE FOLLOWED STEP BY STEP AS IT IS WRITTEN TO PREVENT PERSONNAL INJURY, DEATH, PLANT SHUTDOWN, DESTRUCTION OF MAJOR PIECES OF EQUIPMENT, FIRE OR ENVIRONMENTAL VIOLATIONS.

Steps		Key Points	PPE/Hazards
1.	Close the main raw water supply valve.		<ul style="list-style-type: none">• Hardhat• Safety glasses• Face shield.• Leather gloves
2.	Drain piping from main raw water valve to cooling tower fire protection system. (FPS) drainpipe is located between Deluge valve and raw water block valve.		
3.	Remove bolts from Deluge valve cover plate and remove plate.		Dropping cover plate on feet. Pinch fingers.
4.	Position valve check flap over inlet port (inside Deluge valve body) and position flap stop over flap tab.		
5.	Install Deluge valve cover plate and tighten bolts.		
6.	Close the drain valve between deluge valve and the incoming raw water block valve.		
7.	Open Raw water block valve slowly, and pressure up the fire protection system.		



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations

**Standard Operating Procedures
Agrium Operations**

EAST SULFURIC

Adjusting The Nalco 1720 Chemical Injection Pump.

East Sulfuric-Treated/Raw Water -01

11/09/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to adjust the adjust the Nalco 1720 chemical injection pump.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: N/A

Page 1 of 3

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 9:54:03 AM
Prepared by: Shane T. Passey*

AGR-CBI_000462

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Adjusting the Nalco 1720 chemical injection pump.

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Tyvek suit. • Face shield 	<ul style="list-style-type: none"> • Exposure to Nalco 1720 chemical. 	<ul style="list-style-type: none"> • System leaks must be addressed as soon as possible. • Spills cleaned up immediately.

TASKS:

1. Rotate speed selector knob.
2. Rotate stroke selector knob.

NOTE

Accurate sampling and analysis of the #1 and #2 waste heat boilers water will be the determining factor on how much adjustment should be made to the Nalco 1720 chemical injection pump.

NOTE

Rotate each selector knob clockwise to increase speed and stroke.
Rotate each selector knob counter clockwise to decrease speed and stroke.

Steps		Key Points	PPE/Hazards
1.	Rotate the speed selector knob clockwise to increase the speed of the pump stroke.		<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Tyvek suit. • Face shield
2.	Rotate the stroke selector knob clockwise to increase the length of the stroke.		

Page 2 of 3

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 9:54:03 AM
Prepared by: Shane T. Passey*

AGR-CBI_000463

SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____

Page 3 of 3

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 9:54:03 AM
Prepared by: Shane T. Passey*

AGR-CBI_000464

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations

EAST SULFURIC
Sample-Analyze Cooling Tower Total Dissolved
Solids
East Sulfuric-Treated/Raw Water System-01

11/10/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to sample/analyze the cooling tower water total dissolved solids.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: Flask, conductivity meter.

Page 1 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 9:53:39 AM
Prepared by: Shane T. Passey*

Sample-analyze cooling tower total dissolved solids

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none">• Safety glasses• Steel-toed boots	<ul style="list-style-type: none">• Exposure to chemical saturated sampling water	N/A

TASKS:

1. Sampling cooling tower water

Steps		Key Points	PPE/Hazards
1.	Measure 100 milliliters (mls) of cooling tower water sample into a flask.		<ul style="list-style-type: none">• Safety glasses• Steel-toed boots
2.	Insert conductivity meter probe		
3.	Turn conductivity meter on.		
4.	Record findings		

Page 2 of 4

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 9:53:39 AM
Prepared by: Shane T. Passey*

AGR-CBI_000466

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**

Sample-analyze cooling tower total dissolved solids

Standard Operating Control Limits			
SOCL #:			
Deviation	Condition	Consequence	Action To Take
High/High	What is the condition?	What will occur in this status?	What action do we need to pursue to overcome results?
High			
Low			
Low/Low			
Temperature			
Pressure			

Training Notes:

- 1.
- 2.
- 3.
- 4.
- 5.



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations
Standard Operating Procedures

Phos Products

Getting the Shuttle Wagon on the Rails

East Sulfuric-General-01

3/9/05

Objective: Provide operating personnel with step-by-step instruction on how to get the Shuttle Wagon on the rails.

Requirements: DOT Trained, Watch Video (Shuttlewagon Training PPT)

Required Documents: DOT Training Records

Tools and Equipment: Shuttle Wagon

PPE	Hazards	Environmental Considerations
• Radio	Communication	N/A

Getting the Shuttle Wagon on the Rails

CAUTION

GOOD COMMUNICATIONS BETWEEN OPERATORS AND AREA'S SHOULD BE MAINTAINED AT ALL TIMES TO PREVENT SERIOUS INJURY.

Steps		Key Points	PPE/Hazards
1.	Line the rear rail wheels to the rail.		
2.	Flip the "Rear Rail Gear" toggle switch to the "Down" position.		
3.	Flip the "Rear Rail Gear Shut-Off Valve" to "Open".		
4.	Drive forward or reverse and with turning the "Steering Wheel", line up the front rail wheels to the rail.		
5.	Flip the "Front Rail Gear" toggle switch to the "Down" position.		
6.	Flip the "Front Rail Gear Shut-Off Valve" to "Open".		
7.	Turn the steering wheel until the red light labeled "Wheels Straight Ahead" goes off.		
8.	Flip the "Steering Functions" toggle switch to Lock.		
9.	Place the "Front Axle Switch" to the "In" position.		
10.	Operate the Shuttle wagon on the rail.		



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations
EAST SULFURIC

Adjusting The Sulfuric Acid Metering Pumps

East Sulfuric-Treated/Raw Water System-01

11/10/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to make adjustments to the sulfuric acid metering pumps.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: N/A

Page 1 of 3

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 9:48:43 AM
Prepared by: Shane T. Passey*

Adjusting the sulfuric acid metering pumps

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Tyvek suit. • Face shield 		

TASKS:

1. Rotating meter pump adjustment knob

NOTE

Adjustments will be determined by specific gravity analysis sample of the Cation water units when in caustic regeneration cycle.

Steps		Key Points	PPE/Hazards
1.	Rotate adjustment knob at the end of the meter pump clockwise to decrease pump.	Clockwise rotation will decrease caustic content to the water unit.	<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Face shield • Tyvek suit.
2.	Rotate adjustment knob at the end of the meter pump counter clockwise to increase pump.	Counter clockwise rotation will increase caustic content to the water unit.	



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____

Page 3 of 3

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 9:48:43 AM
Prepared by: Shane T. Passey*

AGR-CBI_000474

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations
EAST SULFURIC

Adjusting The Nalco 354 Chemical Feed Pump

East Sulfuric-Treated/Raw Water System-01

11/10/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to make adjustments to the Nalco 354 chemical feed pump.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: N/A

Page 1 of 3

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 9:49:03 AM
Prepared by: Shane T. Passey*

Adjusting the Nalco 354 chemical feed pump

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Tyvek suit. • Face shield 		

TASKS:

1. Rotating meter pump adjustment knob

NOTE

Adjustments will be determined by monitoring the level in the West chemical feed tank. Tank level should drop approx. 2" per hour.

Steps		Key Points	PPE/Hazards
1.	Rotate adjustment knob at the end of the meter pump clockwise to decrease pump.	Clockwise rotation will decrease water level in the tank.	<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Face shield • Tyvek suit.
2.	Rotate adjustment knob at the end of the meter pump counter clockwise to increase pump.	Counter clockwise rotation will increase slow pumping of the water from the tank.	



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____

Page 3 of 3

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday,
September 22, 2005 9:49:03 AM
Prepared by: Shane T. Passey*

AGR-CBI_000477

**SUBJECT TO ALL APPLICABLE CONFIDENTIAL
BUSINESS INFORMATION PRIVILEGES**



Conda Phosphate Operations
Standard Operating Procedures
Agrium Operations
EAST SULFURIC

Adjusting The Nalco 7200 Chemical Feed Pump

East Sulfuric-Treated/Raw Water System-01

11/10/04

Reviewed by:

Review Date:

Objective: To provide operating personnel with step-by-step instruction on how to make adjustments to the Nalco 7200 chemical feed pump.

Requirements: Operators must have Department Of Transportation Training and Procedure Training.

Required Documents: N/A

Tools and Equipment: N/A

Page 1 of 3

*This is an uncontrolled copy of a controlled document. This copy is valid for 24 hours from the time of printing Thursday, September 22, 2005 9:49:04 AM
Prepared by: Shane T. Passey*

Adjusting the Nalco 7200 chemical feed pump

PPE	Hazards	Environmental Considerations
<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Tyvek suit. • Face shield 		

TASKS:

1. Rotating meter pump adjustment knob

NOTE

Adjustments will be determined by monitoring the level in the West chemical feed tank. Tank level should drop approx. 2" per hour.

Steps		Key Points	PPE/Hazards
1.	Rotate adjustment knob at the end of the meter pump clockwise to decrease pump.	Clockwise rotation will decrease water level in the tank.	<ul style="list-style-type: none"> • Hardhat • Safety glasses • Steel-toed boots • Leather gloves • Face shield • Tyvek suit.
2.	Rotate adjustment knob at the end of the meter pump counter clockwise to increase pump.	Counter clockwise rotation will increase slow pumping of the water from the tank.	



Conda Phosphate Operations

OPERATIONS PROCEDURE ACKNOWLEDGEMENT

With my signature I am acknowledging that I have read the procedure, I understand the procedure and that I will comply with the procedure.

TRAINEE: _____

DATE: _____